

**INFLUENCE OF ORGANIZATIONAL CAPABILITIES ON
NON-FINANCIAL PERFORMANCE OF
MANUFACTURING FIRMS IN KENYA**

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**Influence of Organizational Capabilities on Non-Financial
Performance of Manufacturing Firms in Kenya**

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Technology**

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other university

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DEDICATION

This thesis is dedicated to my children; Clare and Clyde who have made me who I am.

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ABBREVIATIONS AND ACRONYMS

AST	Adaptive structuration theory
DCV	Dynamic capabilities view theory
IS	Information Systems
IT	Information Technology
KAM	Kenya Association of Manufacturers
KNBS	Kenya national bureau of statistics
NSE	Nairobi Security exchange
RBV	Resource Based View
SPSS	Statistical Package for the Social Sciences
TMT	Top management team
TOE	Technology, organization and environmental theory
USA	United States of America
VIF	Variance Inflation Factor

OPERATIONAL DEFINITION OF TERMS

Co-ordination Capability: It is a process of developing coordinated utilization of firm resources in creating superior value for target customers (Tiantian & Yezhuong, 2015). In this study, coordination capability was used to explain the way manufacturing firms utilize their resources in a coordinated way. The indicators identified include logistics synchronization, information sharing and incentive alignment.

Firm Performance: This is the process of measuring the action's efficiency and effectiveness (Ruekert & Walker, 2007). This study adopted firm performance as a measure of how efficient and effective and adaptable the manufacturing firms are. The indicators identified include effectiveness (success of procedures such as changes of sales growth and market share), efficiency (ratio of input to output such as investment return and pre-tax profit) and adaptability (new products)

Knowledge Management Capability: This is the process of developing, transferring, transmitting, storing, identifying, acquisition and implementation of knowledge in an organization (Gholami, Asli, Nazari-Shirkouhi & Noruzy, 2013). In the current study, knowledge based capability was used to explain how manufacturing firms accumulate, protect and leverage knowledge. The indicators identified include Knowledge accumulation, knowledge protection and knowledge leverage.

- Managerial Capabilities:** These are the latitudes of action top managers' use in their strategic choice (Teeter, Sandberg & Jorger, 2016). The study conceptualized managerial capabilities into how manufacturing firm's managers are competent in terms of cognition, interpersonal relations and presentations. The indicators identified include cognitive competences, interpersonal competences and presentations competences.
- Managers Cognition:** This can be seen as both process and outcome of the action of managers striving to understand their surrounding environment both consciously and unconsciously (Nadkarni & Barr, 2008). Manager's cognition in this study was used to explain how cautious and conscious manufacturing firms managers are.
- Marketing Capability:** These are capabilities which enable the firm to track the way the market is moving in advance of competitors through an open approach to market information, development and interpretation and capture of market insights (Owino, 2014). Marketing capability in the current study was used to explain company employee's are competent in marketing strategies. The indicators identified include brand management, market sensing capabilities and customer relationship management capabilities.

Organizational Capability: is a company's ability to manage resources, such as employees, effectively to gain an advantage over competitors (Kelchner, 2018). This was explained by how the firms have adopted technological capabilities, managerial capabilities, knowledge management capabilities, coordination capabilities and marketing capabilities.

Technological Capabilities: It is the ability to perform any relevant technical function or volume activity within the organization including the ability to develop new products and processes and to operate facilities effectively (Terjesen, Patel & Covin, 2011). In this study technological capabilities was measure by how the employees were competent in using technical functions to perform their duties. The indicators identified include business intelligence technology, knowledge application technology and collaboration and distribution technology.

ABSTRACT

Over a long period, the relative size of the manufacturing sector in Kenya has been stagnant, it has lost market share abroad, and it is struggling with structural inefficiencies, low overall productivity and large productivity differences in firms across sub-sectors. A recent review of the manufacturing industry's performance from 2013-2017 indicated that manufacturing firm's contribution to the economy contracted more than any other sector during the five years. The trends remain unpromising indicating that the nation may never achieve its 2030 vision of becoming globally competitive and successful upper middle income country. The general objective of the study was to investigate the influence of organizational capabilities on non-financial performance of manufacturing firms in Kenya. The specific objectives were: to establish the influence of knowledge management capabilities, technological capabilities, managerial capabilities, coordination capabilities and marketing capabilities on non-financial performance of manufacturing firms in Kenya. The study also sought to determine the moderating effect of managers' cognition on the relationship between organizational capability and non-financial performance of manufacturing firms in Kenya. The target population consisted of 513 manufacturing firms. The study used a sample size of 225 firms in Nairobi and its environs (Machakos, Kiambu, Ruiru, Thika and Limuru). Stratified random sampling technique was used to select the sample within the target population. The study used survey design and the collection of primary data was through self-administered questionnaires. Reliability and validity of the research instrument was also conducted during pilot study. Reliability was tested using cronbachs alpha while validity was tested using content validity. Data was then analyzed using descriptive statistics and inferential statistics where data was coded and descriptive statistics generated using Statistical Packages for Social Sciences. Results were presented using graphs, tables and chart. The study found that technological capabilities, marketing capabilities, coordination capabilities and managerial capabilities have a positive and significant effect on performance. In addition, the study found that managers' cognition moderates the relationship between organizational capabilities and firm performance. The study concluded that organizational capabilities (technological capabilities, managerial capabilities, marketing capabilities, knowledge management capabilities and coordination capabilities) positively and significantly influence performance of manufacturing firms in Kenya. The study recommends that firms should strive to cultivate organizational capabilities. Recommendation is made to the manufacturing firms' management to come up with ways and procedure to enhance the capabilities of individual players such as the managers and subordinate staff in terms of technology, Management capabilities, coordination capabilities, marketing capabilities and knowledge management capabilities. This could be done through arrangements for trainings and benchmarking from other firms that are doing well in these areas.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

In the present day business environment that is characterized by a high degree of uncertainty, organizational managers face increasingly dynamic, complex and unpredictable environment, where technology, globalization, knowledge and changing competitive approaches impact on overall performance of the firm (Muhura, 2014). Thus as Jensen (2017) point out, due to this complex and changing environment, managers in both small and large firms are ever in the process of seeking new ways of conducting business to create wealth and increase the shareholder value. Thus a key concern to any present day shareholder of a firm is the need of the management to develop systems and frameworks that not only deliver performance, but also the ability to control these systems against top level targets (Maher & Andersson, 2017). As a result, they note that more and more firms are turning to strategic approaches and internal resources that are valuable, scarce, inimitable and irreplaceable.

Employment of organizational capabilities effectively leads to organizational performance (Rabah, 2015). According to Dubihlela (2013) strategic organizational capabilities helps to build up capabilities the firm may use to differentiate itself in the market in order to achieve customer satisfaction. They are very important, particularly in the dynamic business environment with volatile markets and the environmental uncertainties. The ability to change, harness and develop new organizational capabilities to counter and control the dynamic business environment form the basis for sustainable competitive advantage for firms (Srivastava, Franklin & Martinette, 2013). The capabilities allow the managers to cost effectively exploit the available opportunities in the market and to neutralize the threats in the external environment (Peters and Pearce, 2012). Similarly, the firm capabilities enable the firm to readjust its competencies to adapt to the environmental changes (Teece, Pisano & Shuen, 2017).

Murgor (2014) noted that firm capabilities particularly the human resources, manufacturing technology and marketing influences the kind of strategic response taken by the management teams. According to Nyangi, Wanjere, Egessa and Masinde (2015) in their studies found a correlation between organizational capability and performance of sugar manufacturing firms. However the researchers recommended that further study be carried out on the relationship between strategic organizational capability and performance of firms since it is an area that is not fully focused on and is still insufficiently implemented. Likewise there are some gaps in developing economies of Asia and African continents (Ganeshkumar & Nambirajan, 2013).). Manufacturing firms within Kenya are not exceptional as they also compete both locally and internationally hence should exploit their strategic organizational capabilities to enhance their competitive advantage and survive the market volatility and uncertainties (Gitau, Mukulu & Kihoro, 2015; Kapto & Njeru, 2014). The capabilities are examined based on the firm's strengths and weaknesses in managerial, marketing, financial and technical areas to determine whether the firm has the strengths necessary to handle the specific forces in the external environment and to enables management to identify the external threats and take advantage of the opportunities (Saini & Mokolobate, 2011).

1.1.1 Global Perspective of organizational capabilities and Performance

Most firms in the world must manage and survive economic crisis due to economic weak spots integrated into the global economy hence important to understand organizational capabilities that will help solve such issues. Several studies have been done across the world that emphasize the importance of organizational capabilities on firm performance for example in the United Kingdom, Gurkan and Bititci (2015) found out that organizational capability has been adopted in large enterprises, with some interest on SMEs. This was because larger enterprises have short and long term strategic planning while SMEs have Short term planning focusing on niche strategies Suarez-Perales, Garces-Ayerbe, Rivera-Torres and Suarez-Galvez (2017) found that the organizational capabilities of strategic proactivity and continuous innovation are associated with proactive environmental strategies of 134 North American and European

ski resorts. While in Turkey; Baloglu and Pekcan (2016) observed that marketing capabilities, market-linking capabilities, information technology capabilities and management related capabilities as dimensions of strategic capabilities have a positive effect on competitive performance of machine made carpet manufacturers. In China, Yue (2015) concluded that different regional institutions have different influences (to promote or hinder) in building organizational capabilities in the solar PV industry. The regional institutions in Jiangsu can help solar PV companies to build organizational capabilities.

Seemingly; in India, Brahmane (2014) indicated that implementation of organization capabilities has aid in solving bottlenecks between business to business (B2B). The model of organizational capability and market share as business performance outcome proposed is one of the useful platform to understand organization capability with strategic implication. In a multivariate analysis of survey responses of 102 firms belonging to supporting industries in Vietnam indicates that the organizational capabilities are related to the performance (Nham & Takahashi, 2017). While in Malaysia, a study conducted by Alimin, Raduan and Abdullah (2012) among manufacturers revealed that organizational capabilities are a vital cog in the relationships among organizational resources and competitive advantage because organizational capabilities enhance the resource elements towards attaining competitive advantage.

Viewed from a worldwide perspective, the Toyota Motor Corporation, for instance has become a leading auto manufacturer in the world. Toyota sells its vehicles in more than 170 countries and regions worldwide (Jurevicius, 2017). Among key Toyota's Key core competencies include the Toyota production system that has helped accelerate the "lean thinking" revolution that is finally sweeping all manufacturing operations today (Hass, Pryor & Broders, 2016). Since the 1980s, Toyota has set the standard for quality and cycle time in developing new models. They have been leaders in the market as a result of their popularly priced cars, such as the Camry, and premium brands such as the Lexus. Toyota also continually invests for the future, and reported that 4% of the Toyota sales dollar was invested in research and development in 2004. The innovation

effectiveness at Toyota is a benchmark for competitors, yet Toyota is only the third-highest spender in the auto industry. Thus, Toyota has found ways to stretch the research and development expenditures across fewer models. For example, Toyota's Lexus was designed totally for U.S. consumers, from dealership to accessories, and is not sold in Japan (Hass, Pryor & Broders, 2016). According to Nyangi, Wanjere, Egessa and Wekesa (2015), Toyota is the most ambitious researcher of bionic technology in order to boost productivity by factory workers through products like high-tech prosthetic devices. The Toyota's strategic Centre (or central firm) also plays a critical role as a creator of value

More so in Ghana, Bonsu (2016) found out that there is a direct relationship between organizational capabilities and organizational performance (financial and operational). He concluded that irrespective of the competitive intensity in the business environment, micro and small family businesses that adapt marketing and managerial capabilities will always outperform industry players. While in Egypt, Salama (2017) on developing and examining a conceptual framework relating to resource based organizational capabilities and inter-organizational practices on organizational performance, he concluded that organizational performance, in the factories in Egypt, is affected by variables other than knowledge management capability and organizational learning. On the contrary, Ogunkoya (2014) indicated that there is no significant relationship between organization capabilities and organizational performance of banking sector in Nigeria. This implies that the ability of a firm to be able to produce unique and creative goods/services does not guarantee the organization to edging its competitors in the industry.

1.1.2 Kenyan Perspective of organizational capabilities and Performance

There are few studies in Kenya on strategic organizational capabilities for example Nyangi, Wanjere and Egessa (2015) indicated that there exists a statistically significant correlation between organizational capability and performance of sugar manufacturing firms in western Kenya. Organizational capabilities adapted for the study included entrepreneurship, relationship building, product development, culture and learning.

Similarly; Hassan (2016) found a strong positive relationship between strategy implementation and communication process and organizational capability. The evaluation of effect of strategic capability in the corporation established that the variable supported strategy implementation in the corporation. Also the study found that strategic flexibility supported strategy implementation at Agricultural Development Corporation.

Similarly, Muhura (2012) found that strategic capabilities gave Airtel Kenya a competitive advantage over the other mobile companies. The study adopted the following dimensions of strategic capabilities: human resource, physical infrastructure and the distribution network, strong brand, technology, market research, innovation and manpower development and talent nurturing. Organizational capability had a partial mediating effect on the relationship between quality management practices and performance while Muganda and Fadhili, (2013) revealed there is need to build organizational capability and a framework that recognizes the key drivers that underlie the development of off- shoring success in IT industry in Kenya.

1.1.3 Organizational Capabilities

A basic assumption of the ‘capability view’ is that companies have ways of doing things and dealing with organizational problems that show strong elements of continuity (Dosi, Faillo & Marengo, 2013). Firms are heterogeneous and they develop different organizational routines even if they belong to the same industry and produce similar outputs. Firm-specific ways of acting are based on organizational capabilities that have been gradually accumulated and shaped within firms. Organizational capabilities, we can conclude, enable firms to deal effectively in a firm-specific way with key organizational problems (Dosi, Nelson & Winter, 2015).

Organizational capabilities are identified with the know-how of a firm of performing particular problem-specific activities (Dosi, Nelson & Winter, 2015). Core capabilities embody proprietary knowledge that is unique to a particular firm and superior to that of the main competitors. It is widely agreed that firms’ competitiveness depends on the

development of only a few core capabilities. “Companies derive competitive strength from their excellence in a small number of capability clusters, where they can sustain their competitive edge (Dosi, Faillo & Marengo 2013). Types of organizational capabilities include technological, marketing managerial, knowledge management and network capabilities.

1.1.4 Firm Performance

Firm performance is when a firm realizes proper coordination through effective communication, scheduling and task management (Protogerou Caloghirou & Lioukas, 2011). Theodosiou, Kehagias and Katsikea, (2012) also argues that firm performance can be realized through proper coordination of tasks that increase the efficiency and effectiveness of firm performance. There are no unanimously agreed measures of organization performance among scholars and practitioners (Ghalomi Asli, Nazari-Shirkouhi, & Noruzy, 2012; Ruekert & Walker, 2007; Hilman, 2014; Lin 2005; Bowen & Ostroff, 2004) measured organization performance in terms of multidimensional construct i.e. financial and non-financial measures. Lopez-Nicolas and Meroño-Cerdán (2011), emphasized that organization performance must be enhanced for MO programs to be effective.

Rust, Amber, Carpenter, Kumar and Srivastava (2004) argued that firm performance outcomes result from market successes or when market positions are achieved and fundamental changes occur over time. Dornien and Selmi, (2012), identified three factors that determine firm performance: environmental-characteristic of industry, average profit and technological change, organizational factors-organization structure, company structure and company size, human factor-which includes firm employees.

1.1.5 Manufacturing Industry in Kenya

Kenya has majored in manufacturing sector as a source of exports which contributes to 13% of the gross domestic product according to the economic recovery strategy for employment and wealth creation report (2015). It is a focal point of Kenya’s 2030 vision

of placing Kenya on a sustainable growth path. The manufacturing firm is divided into 12 sub sectors which include: building, mining and construction, chemical and allied, plastics and rubber, metal and allied, energy electrical and medical equipment, leather and footwear, motor vehicle and accessories, textiles and apparel.

Despite Kenya's manufacturing firms being viewed as small, they form the largest manufacturing industry in East Africa. The manufacturing companies are diverse. They include: Transformation and value addition of agricultural materials i.e. of coffee and tea, canning of fruit and meat, wheat, barley and cornmeal milling and refining of sugar. Production of electronics, assembly of motor vehicle and processing of soda ash are all parts of the sector. Assembly of computers was first done in 1987. Textiles, ceramics, cement, shoes, aluminum, steel, glass, wood, cork and plastics are other products manufactured in Kenya. Foreign investors own Twenty-five per cent of Kenya's manufacturing sector most being from The United Kingdom followed by the Americans (KAM, 2016).

Kenya's manufacturing industry is largely agro-based and considered by the lesser assessment addition, hire and capability operation and transfer capacities somewhat due to fragile linkage to other segments (Magutu 2013). The intermediary and investment imports industries are comparatively undersized, indicating that the country's manufacturing sector is largely import-dependent (World Manufacturing Production, 2014). What's more, the segment is amazingly divided with more than 2,000 assembling units along these lines separated into a few wide sub-sectors. The main three assembling subsectors represent half of the area's GDP, 50% of export and 60% of formal work. Around half of assembling firms in the nation utilize 50 specialists or less. A good number of manufacturing firms in Kenya is family -controlled and functioned. However, the majority of Kenya's factory-made merchandises i.e. about 95% are elementary supplies like foodstuff, drinks, construction resources and basic elements. Just about 5% of manufactured items, such as pharmaceuticals, are skill-intensive (KAM, 2015).

The manufacturing industry accounted for up to 12% GDP in 2015/2016 (GOK, 2017). The manufacturing sector in Kenya has a high potential for employment creation and acts as a stimulus for growth in other sectors such as agriculture and thus offering significant opportunities for export expansion (KNBS, 2014). The manufacturing sector in Kenya contributes 10 percent to the country's GDP and employs over 2 million people (KAM, 2014). However, the Kenya Vision 2030 specifies that the segment ought to account for 20 percent of GDP (KNBS, 2015). Attaining this objective requires addressing some underlying constraints that hinder faster growth. These comprise high input purchase cost, decline in investment portfolio for some activities, transport infrastructure, high cost of credit and stiff competition from imports (KNBS, 2013).

The growth in manufacturing industry has declined to 3.3 per cent in 2011 as compared to 4.4 per cent in the year 2010 mainly due to a challenging operating environment (KNBS, 2012). Furthermore, the manufacturing sector has high yet untapped potential to contribute to employment and GDP growth. As an important sector in the overall economic growth, manufacturing sector requires an in depth analysis at industry as well as firm level. This motivated the need to carry out the study. In addition, according to KPMG (2014), real growth in the manufacturing sector averaged 4.1% p.a. during 2006-2013 which is lower than the average annual growth in overall real GDP of 4.6%. As a result, the manufacturing sector's share in output has declined in recent years. According to the US Department of State, this exposes a gap in the country's ability to achieve a fully industrialized economy by 2020.

1.2 Statement of the Problem

The manufacturing industry is a very important factor in the growth of an economy as it leads to job creation, brings about foreign exchange, expands trade and commerce and therefore its performance is of paramount importance as well. Therefore, the profitability of manufacturing firms, efficiency and effectiveness in its operations and the adaptability should be increasing to ensure stability.

A report by the Standard Digital indicated that Kenya's manufacturing firms have declined steadily since 1970s and new firms have only a 35 per cent chance rate of surviving in the market. The value added per worker in the sector has also drastically reduced in the last 30 years, while the relative size of the sector has been stagnant and developed lesser in Kenya as compared to other countries. Over a long period, the relative size of the sector has been stagnant, it has lost market share abroad, and it is struggling with structural inefficiencies, low overall productivity and large productivity differences in firms across sub-sectors. Further, the manufacturing sector only contributed 11 per cent of GDP in 2013 and employed only 12 per cent of the 2.3 million who make up Kenya's labour force translating to a partly 280,000 individuals (Standard Digital, March, 6, 2015).

Further statistics by the economic survey of the Kenya National Bureau of Statistics (2018), indicate that the manufacturing firm's share of the Gross Domestic Product (GDP) in Kenya shrank from 11 per cent in 2013 to 10% in 2014, 9.4% in 2015, 9.1% in 2016 to 8.4 per cent in 2017. Further statistics from World Bank also show that large scale manufacturers operating in Kenya registered stagnation and declining profits (World Bank, 2014). The Kenya Association of Manufacturers have also shown that some firms such as Cadbury, Kenya Reckitt & Benkiser, Procter & Gamble, Bridgestone, Colgate Palmolive, Johnson & Johnson and Unilever announced plans to shut down their plants and shift operations to Egypt (KAM, 2014). A recent review of the manufacturing industry's performance from 2013- 2017 indicated that manufacturing firm's contribution to the economy contracted more than any other sector during the five years. The trends remain unpromising indicating that the nation may never achieve its 2030 vision of becoming globally competitive and successful upper middle income country.

While many studies have been conducted on the concept of performance in the manufacturing industry, there has been no study that has focused on the organizational capabilities and its influence on the performance of manufacturing firms. Kariithi and Kihara (2017) investigated the determinants of manufacturing firm's performance and

concentrated on information communication technology. Anitha (2018) on the other hand sought to find out the factors that affect the financial performance of manufacturing firms. The study by Anitha (2018) concentrated only on the financial aspect of performance but failed to assess other aspects such as efficiency and effectiveness in operations. Nyabuto, (2017) examined the factors that affect the organizational performance of manufacturing firms in Kenya. The study also failed to investigate organizational capabilities but focused on human resource management factors. Further, Mutunga. (2017) assessed the effect of micro factors on financial performance of Manufacturing Firms in Kenya. It is therefore evident that there has been no study that has specifically looked at how organizational; capabilities affect manufacturing firm's performance. This study therefore sought to address the gap by analyzing the influence of organizational capabilities on the performance of manufacturing firms in Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

This study sought to investigate the influence of organizational capabilities on non-financial performance of manufacturing firms in Kenya.

1.3.2 Specific Objectives

This study sought to:

- i) Examine the influence of technological capabilities on non-financial performance of manufacturing firms in Kenya.
- ii) Determine the influence of managerial capabilities on non-financial performance of manufacturing firms in Kenya.
- iii) Examine the influence of knowledge management capabilities on non-financial performance of manufacturing firms in Kenya.

- iv) Determine influence of coordination capabilities on non-financial performance of manufacturing firms in Kenya.
- v) Determine the influence of marketing capabilities on non-financial performance of manufacturing firms in Kenya.
- vi) Determine the moderating effect of managers' cognition on the relationship between organizational capability and non-financial performance of manufacturing firms in Kenya.

1.4 Hypotheses of the Study

This study tested the following hypotheses:

- H₀:** Technological capabilities exert no significant influence on the non-financial performance of manufacturing firms in Kenya.
- H₀₁:** Managerial capabilities have no significant influence on the non-financial performance of manufacturing firms in Kenya.
- H₀₂:** Knowledge management capabilities have no significant influence on the non-financial performance of manufacturing firms in Kenya.
- H₀₃:** Coordination capabilities have no significant influence on the non-financial performance of manufacturing firms in Kenya.
- H₀₄:** Marketing capabilities have no significant influence on the non-financial performance of manufacturing firms in Kenya.
- H₀₅:** Managers' cognition has no significant influence on the relationship between organizational capability and non-financial performance of manufacturing firms in Kenya.

1.5 Justification of the study

1.5.1 Management of Manufacturing Firms

This study will be important to various stakeholders. First to the management of manufacturing firms as they will be able to understand the influence of different organizational capabilities on manufacturing firms in Kenya or combination of different dimensions of organizational capabilities and on how they play a bigger role in shaping firm operations. The study will be useful in helping managers of firms improve on their management capabilities and make better decisions.

1.5.2 Policy Makers

Policy makers in the manufacturing industry will also find the results of this study very valuable, as it will help them in policy implementation. The manufacturing firms in Kenya will also find the results of this study very valuable, as it will be able to ascertain the extent of strategic organizational capabilities that neutralize the volatile business environment.

1.5.3 Kenya Association of Manufacturers

Lastly, the findings of the study will also be important to the regulatory authorities in Kenya who will find the recommendations of the study valuable. They will understand the factors that affect performance of manufacturing firms and hence desist from making laws that stifle their performance. The research will also help firms translate a conceptual recommendation to become competitive by enhancing strategic coordination capabilities, strategic marketing capabilities, strategic managerial capabilities, and strategic technological capabilities and understand customers' perceptions of organizational capabilities.

1.5.4 Future Scholars

Finally, the study will be important to the Kenyan scholars and researchers for further pedagogical studies on organizational capabilities. The study findings will form a theoretical basis for future studies and will also be used by future scholars to compare their findings.

1.6 Scope of the Study

The current study sought to determine the aspects of organizational capabilities that influence performance of 513 manufacturing firms in Kenya represented in sub sectors. KAM is the business member representing organization for manufacturing sector in Kenya. The study was specifically limited to those manufacturing firms located within Nairobi and its environs which include; Ruiru, Thika, Limuru, Kiambu and Machakos as listed by KAM. This decision was based on the fact that 80% of manufacturing firms are concentrated within Nairobi and its surrounding areas (KAM, 2013). The sector is also one of the six priority sectors that promise to raise GDP growth rate to the region of 10 per cent in a number of years as envisaged in Kenya's Vision 2030. Moreover, the sector is one of the key economic pillars and is aspired to create jobs, generate foreign exchange and attract foreign direct investment for the country. The current study was carried out in the year 2018 and covered a period of 5 years from 2014-2018.

The study investigated five organizational capabilities which included technological capabilities, managerial capabilities, knowledge management capabilities, coordination capabilities and organizational capabilities. These were chosen because with the technological advancement experience worldwide, the employees of manufacturing firms need to be competent in terms of technological capabilities. The management of manufacturing firms also need competence in managing the activities of the firms which could be enhanced by possessing such capabilities as managerial capabilities, knowledge management capabilities, coordination capabilities and organizational capabilities.

1.7 Limitation of the study

The limitation of the study was found in the selection of the study variables which was not exhaustive. Specifically, the conceptualization of organizational capabilities was somehow limited and it is arguable that organizational capabilities may consist of more than the mentioned variables. This means that other additional factors could provide further insight to organizational capabilities and performance relationship. To mitigate this limitation, the study suggested future studies to focus on the other factors that could be conceptualized from organizational capabilities.

Additionally, the study used questionnaire from the manufacturing firms which put constraints on the generalizability of the results to other firms and other country contexts. The sample selection may also limit the generalization of the results to the overall population. Lastly, the narrow and specific focus of this study which means the results are limited to manufacturing firms only may not translate to other industry and national context. This was further curbed by making a suggestion for further studies to focus on other firms and countries.

The study was also limited by the hesitation of the respondents in responding to the questionnaire. This was because they considered the information confidential and feared disclosing it. To curb this limitation, the researcher explained to them that the information obtained would only be used for academic purposes only and would not be disclosed to another party.

The study was also limited in terms of the methodology used, the research design, the sampling technique, data analysis methods and data collection instrument adopted in the study. To curb this limitation, the researcher made further suggestions for future studies to adopt other methodologies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presented review of related literature on the influence of different aspects of strategic organizational capabilities on the performance of manufacturing firms in Kenya. The first part of the literature review gave the theoretical foundations on strategic organizational capabilities and the second, empirical review. It also focused on conceptualizing the organizational capabilities through the combination of marketing capabilities, knowledge management capabilities, coordination capabilities, managerial capabilities and technological capabilities on firm performance.

2.2 Theoretical Review

This study was based on four theories, namely the Resource Based theory of the firm (Wernerfelt, 1984), the Dynamic Capability theory (Teece, Pisano & Shuen, 2007), knowledge based capability theory (Kor, & Mahoney, 2014), Adaptive structuration theory (Poole, 2009) and Organization learning theory

2.2.1 Resource Based View Theory of the Firm

Resource Based View of the Firm Theory was coined by Penrose (1959). RBV regards the firm as a bundle of resources and capabilities that are heterogeneously distributed across firms that persist over time (Ambrosine & Bowman, 2009). Academicians suggest that when a firm has resources which are valuable, rare, inimitable and non-substitutable, they can use them to implement value creation strategies that provide a sustainable competitive advantage (Peteraf & Barney, 2003). RBV originates in the strategy literature (Wernerfelt, 1984) which provides a useful framework for examining the development of management. This can be achieved by having critical resources that

are firm-specific, valuable to customers, non –substitutable and difficult to imitate (Rugman & Verbeke, 2002).

Resource based view theory was employed with a major focus on how firm's resources and knowledge development affects performance (Kanyabi & Devi, 2012). It assumes that organization to achieve competitive advantage; it has to develop its resources. Other who expanded the theory were Wernerfelt (1984) and Helfat and Martin (2015). RBV emphasized resources and capabilities as the origin of competitive advantage. Eisenhardt and Martin (2000) looked at maximizing long run profits through exploiting and developing firm resources. It characterizes resources as valuable, rare, inimitable and non-substitutable. Firms generate rents through differences in information, luck and capabilities. The RBV approach sees firms with superior system and structures being profitable not because they engage in strategic investments but because they have markedly lower cost to offer. It focuses on the rents according to the owners of scarce firm-specific resources rather than the economic profits from market positioning. It puts vertical integration and diversification into a new strategic light (Ambrosine & Bowman, 2009).

However RBV has been criticized for its inability to explain how resources are developed and duplicated and failure to consider the impact of dynamic market environments (Priem & Butter, 2001). Some researchers have criticized RBV that it is a static theory that has failed to develop into a competitive advantage especially in dynamic environment fostered by rapid technological change (Priem & Butler, 2011) and in response to concerns; the capability, competencies and dynamic capability approach were developed. The literature indicates while possessing valuable, rare, inimitable and non-substitutable resources may be beneficial. Firms also require complementary capabilities to be able to deploy available resources to match market conditions to drive firm performance (Teece, Pisano & Shuen, 2007). This theory was deemed relevant to this study since it informed the dependent variable which is performance. The theory sought to explain organizational performance from effective employment of resources.

2.2.2 Dynamic Capabilities Theory

The Dynamic Capabilities Theory was developed by Teece, Pisano and Shuen (1997). Teece et al. (1997) defines it as the firm's ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments hence it reflects a firm's ability to achieve new and innovative forms of competitive advantage given market positions. It explains how firms must recognize, adapt and exploit critical opportunities. It shows how firms must have information processing routines capable of recognizing, adapting and exploiting critical opportunities which emphasizes the role of management in reconfiguring resources (Teece et al., 2007).

Dynamic capability supersedes the capability to generate and understand the implications of market information. A firm requires dynamic capabilities to coordinate inter-functional strategies responses that reinforce competitive advantage in the market place (Jaworski & Kohli, 2013). When viewed as dynamic capabilities, individual behaviors or routines can set a benchmark for expected behaviors across the firm to enhance understanding of the competitive value management based on dynamic capabilities perspective (Wong & Ahmed, 2007).

Dynamic capability has enhanced RBV by addressing the evolutionary nature of a firm's resources and capabilities in relation to environmental changes by identifying a firm or industry specific processes that are critical to the evolution of that firm or industry. Hou (2008) asserts that dynamic capabilities are the collection of resources for example technology, skills and knowledge-based resources. Helfat and Peteraf (2009) view dynamic capabilities as the capacity of a firm to purposefully create or modify its resource base and the focus is on the capacity of an organization facing dynamic environment to create new resources.

Dynamic capabilities view acknowledges top management team's belief that firms' evolution plays an important role in developing dynamic capabilities (Teece, Pisano & Shuen, 2007; Helfat & Peteraf, 2009). According to Ambrosini, Bowman and Collier

(2009) dynamic capabilities compose reconfiguration, transformation and recombination of resources. Eisenhardt and Martin (2000) argue that since market places are dynamic, it is the capabilities by which firms resources are acquired and deployed in a way that matches the firms' market environment that explains inter-firm performance. Barreto (2010) defines dynamic capabilities as the firm's potential to solve problems by sensing opportunities and threats and making timely market oriented decisions and to change its resource base.

Zollo and winter (2012) suggest that dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursue of effectiveness. Eisenhardt and Martin (2000) suggested that the functionality of dynamic capabilities can be duplicated so value for competitive advantage lies in the arrangement of resources hence the dynamic capabilities are the organizational and strategic routines by which firms achieve new resources configurations as markets emerge ,collide, split, evolve and die.

Arend and Bromiley (2009) criticized the dynamic capabilities theory by stating that the theory does not explain successful change with logical consistency, conceptual clarity and empirical rigor. Arend and Bromiley (2009) point to a lack of theoretical foundation, logical inconsistencies, halo effects of past research and incompleteness of explanation. Williamson (1999) criticizes the capabilities perspective and especially the dynamic capabilities framework regarding obscure and often tautological definitions of key terms and failures of operationalization. Other authors echo the critique of vague or confusing definitions that make it difficult to capture the construct (Danneels, 2008; Kraatz & Zajac, 2001; Winter, 2003). The lack of empirical research on dynamic capabilities is a reason for concern for several scholars (Newbert, 2007; Williamson, 1999). In this regard other authors note that the major part of empirical research on dynamic capabilities was conducted in qualitative case studies or concentrated on small sections of the concept (Wang & Ahmed, 2007) and that quantitative empirical tests of a comprehensive model of dynamic capabilities are underdeveloped.

As the findings remain unconnected, there is no clear understanding about the antecedents and consequences of dynamic capabilities, and until to date the construct dynamic capabilities remains abstract and diffuse as there is no widely accepted operationalization available (Barreto, 2010). Zahra, Sapienza and Davidsson (2006) further state that dynamic capabilities are often operationalized in a way that makes it difficult to differentiate between their existence and their effects. Another point of criticism regarding the capability perspective is that the field is lacking micro-foundations that explain how individual-level abilities are leveraged to collective organizational level constructs like organizational capabilities or routines (Abell, Felin & Foss, 2008; Felin & Foss, 2005).

2.2.3. Knowledge Based Capability Theory

The Knowledge Based Capability Theory extends the resource based view of the firm by Penrose (1959). Originating from the strategic management literature, this perspective builds upon and extends the resource-based view of the firm (RBV) initially promoted by Penrose (1959) and later expanded by Wernerfelt (1984); Barney (1991) and Day (2011).

The transfer of knowledge within organizations is not a trivial problem as the same complex technologies that are proof against imitation are also difficult to codify and teach to others (Kogut & Zander, 2013). External knowledge transfer challenges include different levels of knowledge transfer abilities between alliance partners, where those more effective at transferring knowledge outperform those less adept (Dyer & Singh, 2008). Knowledge is embedded and carried through multiple entities including organizational culture and identity, policies, routines, documents, systems, and employees. Originating from the strategic management literature, this perspective builds upon and extends the resource-based view of the firm (RBV) initially promoted by Penrose (1959) and later expanded by others (Wernerfelt 1984; Barney 1991).

Knowledge is a key intangible resource that is the primary source of a sustainable competitive advantage (Acedo, Barroso & Galan, 2006). The role of the firm is not simply to acquire an assortment of resources and capabilities, but rather to develop its organizational knowledge to produce a sustainable competitive advantage (Grant, 2016). The primary task of management is then to devise and establish routines necessary to integrate this knowledge (Grant, 2016). The knowledge-based theory rests on the assumption that resource and capability-based advantages are derived from superior access to and integration of specialized knowledge (Grant, 2016). Knowledge is created and held by individuals, but can become embedded within the organization as organizational processes and routines are performed repeatedly (Conner & Prahalad, 2006). These organizations can be considered social communities in which individual and social expertise and knowledge is transformed into valuable products and services (Kogut & Zander, 2013).

Firms can, therefore, be viewed as bundles of knowledge, where knowledge is an asset that serves as a source of differentiation and competitive advantage (Dierickx & Cool, 2009). Two critical knowledge processes in firms associated with the bundling of knowledge are creation and transfer (Von Krogh, Nonaka & Aben, 2001). The transfer of knowledge within organizations is not a trivial problem as the same complex technologies that are proof against imitation are also difficult to codify and teach to others (Kogut & Zander, 2013). External knowledge transfer challenges include different levels of knowledge transfer abilities between alliance partners, where those more effective at transferring knowledge outperform those less adept (Dyer & Singh, 1998).

Some of the critiques of the knowledge based capabilities theory include Conner and Prahalad (1996), Foss (1996), Kogut and Zander (1992) and Kogut and Zander (1996). They urged that the theory attempt to explain firm organization in terms of a preference for such organization—a distinctly non-economic mode of explanation—and that it fails to sufficiently characterize the nature of the firm, because they identify firm organization with the employment contract and neglect asset-ownership.

In this study, the knowledge based capability theory is linked to the influence of knowledge management capabilities. Knowledge is embedded and carried through multiple entities including organizational culture and identity, policies, routines, documents, systems, and employees.

2.2.4 Adaptive Structuration Theory

Adaptive structuration theory is based on Giddens (1984) structuration theory. This theory is formulated as the production and reproduction of the social systems through members' use of rules and resources in interaction. Poole (2009) adapted Giddens (1984) theory to study the interaction of groups and organizations with information technology, and called it adaptive structuration theory (AST). AST criticizes the technocentric view of technology use and emphasizes the social aspects. Groups and organizations using information technology for their work dynamically create perceptions about the role and utility of the technology, and how it can be applied to their activities. These perceptions influence the way technology is used and hence mediate its impact on group outcomes.

This theory is concerned with the behavior of humans as they use technology (such as computers) in a bank. On the other hand the behavioral school implies the way human beings react to the environment, for instance how people behave determines how knowledge is managed. The theory also refers to the nature of group-computer interaction since organizations, such as those in the banking industry, now rely heavily on the use of advanced information technology for the purposes of communication and relaying information. Over-reliance on IT has led many organizations and individuals to believe that knowledge is IT, yet Adaptive structuration theory focuses on communication using information technology, thus highlighting the concepts of appropriation and structuration (Sedera & Zakaria, 2008).

Dewan and Ren (2011) posits that the AST draws some links between individuals and organizational learning due to the key concepts that address aspects of group interaction

with technology. Organizational learning is regarded as a continuous phenomenon emerging from the social interactions and practices of individual. The behavioral school is a kind of community of practice model where there is continuous learning and informal exchange which is enhanced by the availability of knowledge retained and accessible from within as well as outside the organization. With the advent of interactive communication technologies such as wikis, blogs, Facebook and Twitter, to name but a few, individuals are exposed to new information and knowledge (Taylor & Todd, 2011; Skyrme & Amidon, 2013).

While AST criticizes the techno centric view of technology use, it places emphasis on social aspects. Technologies such as computers enable the transfer, sharing and, most importantly, the retention of knowledge for preservation and re-use. Employees extensively interacted with technology which is likely to change individuals' behaviors. As such the theory is applied as knowledge retention strategies (Skyrme & Amidon, 2013).

Rose (1998) claims the conflation of structure and agency is the main criticism of structuration theory. Giddens states that structural is not external to individuals. It exists into agency mind. Archer (1990) states this conflation reduces the analytical perspective because it leads to a non-gathering between concepts such as interaction and social system. It is more appropriate to distinguish between people and society features. Hence, Archer (1990) withstands the analytical separation between structural and agency. Indeed, Layder (2005) postulates that the simultaneous constitution of action and structure do not allow the assessment of the relative impact of structure or that of agent. It is difficult to analyze the way in which structural features may predominate in certain areas at certain times, while the creative and transformative activities of people may come to the fore" (Layder, 2005).

2.2.5 People Capability Maturity Model

The People Capability Maturity Model was developed by Curtis, Hefley and Miller (1995). People Capability Maturity Model is a maturity framework that focuses on continuously improving the management and development of the human assets of an organization. It describes an evolutionary improvement path from ad hoc, inconsistently performed practices, to a mature, disciplined, and continuously improving development of the knowledge, skills, and motivation of the workforce that enhances strategic business performance. Related to fields such as human resources, knowledge management, and organizational development, the People CMM guides organizations in improving their processes for managing and developing their workforces. The People CMM helps organizations characterize the maturity of their workforce practices, establish a program of continuous workforce development, set priorities for improvement actions, integrate workforce development with process improvement, and establish a culture of excellence (Curtis, Hefley & Miller, 2002).

The People CMM consists of five maturity levels that establish successive foundations for continuously improving individual competencies, developing effective teams, motivating improved performance, and shaping the workforce the organization needs to accomplish its future business plans. Each maturity level is a well-defined evolutionary plateau that institutionalizes new capabilities for developing the organization's workforce. By following the maturity framework, an organization can avoid introducing workforce practices that its employees are unprepared to implement effectively (Curtis, Hefley & Miller, 2002).

Critiques of the people capability maturity argue that it has no formal theoretical basis. It's based on the experience of "very knowledgeable people". Hence, the de facto underlying theory seems to be that experts know what they're doing. Secondly, the CMM has only vague empirical support. That is, the empirical support for CMM could also be construed to support other models. The model is based mainly on experience of

large government contractors, and Watts Humphrey's own experience in the mainframe world. Further criticism is that the CMM reveres process, but ignores people (Bach, 1994).

The theory will be relevant in this study since it explains how employees can develop the organizational capabilities. It provides a step towards this and how programs could be effected to enhance capabilities of employees. These capabilities are enhanced through development which are implemented by the management to improve their performance.

2.3 Conceptual Framework

The conceptual framework showed the anticipated relationship between organizational capabilities (managerial capabilities, marketing capabilities, technological capabilities, knowledge management capabilities and coordination capabilities) and performance of manufacturing firms in Kenya. A number of hypotheses were developed showing the relationships between organizational capabilities (managerial capabilities, marketing capabilities, knowledge management capabilities, technological capabilities and coordination capabilities) and firm performance. These organizational capabilities dimensions were adopted from the following: inter-functional coordination (Wang, Zhu & Bao, 2017; Mandal & Korasiga (2016), knowledge management capabilities (Mohammadian & Mohammadreza, 2012; Chengecha, 2016), technological capabilities (Obembe, Ojo & Ilori, 2014; Zawislak Cherubini Alves, Tello-Gamarra, Barbieux & Reichert, 2012), managerial capabilities (Lee & Klassen, 2008; Ahmed, 2017; Aduloju, 2014) and marketing capabilities (Karanja, Muathe & Thuo, 2014; Breznik & Hisrich, 2014).

Organizational Capabilities

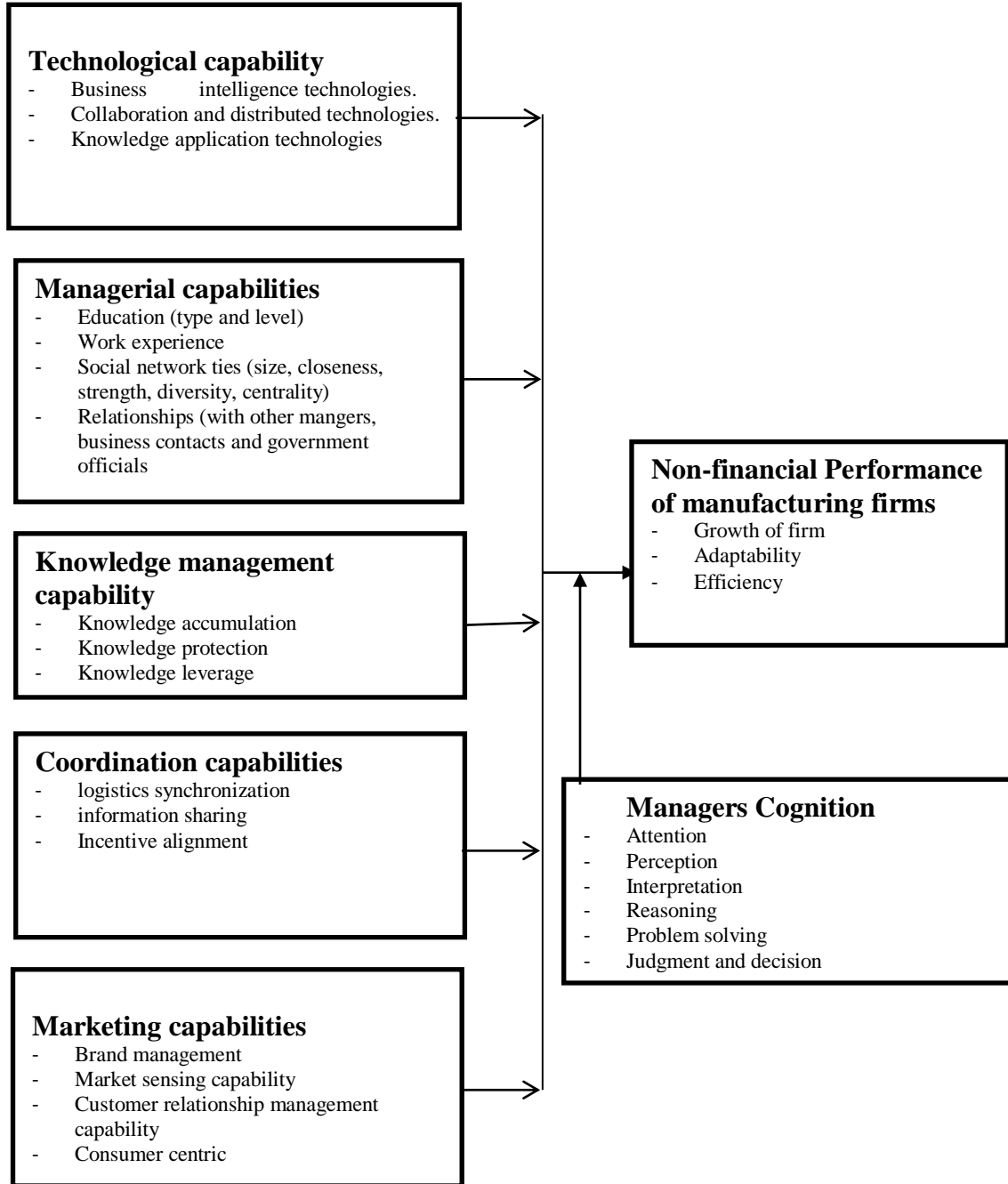


Figure 2.1: Conceptual framework showing relationship between variables

2.3.1 Organizational Capabilities

A basic assumption of the ‘capability view’ is that companies have ways of doing things and dealing with organizational problems that show strong elements of continuity (Dosi, Faillo & Marengo, 2013). Firms are heterogeneous and they develop different organizational routines even if they belong to the same industry and produce similar outputs. Firm-specific ways of acting are based on organizational capabilities that have been gradually accumulated and shaped within firms. Organizational capabilities, we can conclude, enable firms to deal effectively in a firm-specific way with key organizational problems (Dosi, Nelson & Winter, 2015).

Organizational capabilities are identified with the know-how of a firm of performing particular problem-specific activities (Dosi, Nelson & Winter, 2015). Core capabilities embody proprietary knowledge that is unique to a particular firm and superior to that of the main competitors. It is widely agreed that firms’ competitiveness depends on the development of only a few core capabilities. “Companies derive competitive strength from their excellence in a small number of capability clusters, where they can sustain their competitive edge (Dosi, Faillo & Marengo 2013). Types of organizational capabilities include technological, marketing managerial, knowledge management and network capabilities. These are discussed below.

2.3.2 Technological Capabilities

Technological capability have been an integral strategic resources used by organizations to achieve competitive advantage in the industry over the past era (Shamsuddin Wahab, Abdullah & Kamaruddin, 2012). In addition organizations that have higher technological skills appear to perform at the highest level, and also tend to be more innovative and creative. They achieve a great efficiency gain by inventing process innovations (Terjesen, Patel & Covin, 2011), and also engage in high differentiation strategy by creating products to respond to the evolving market. Terjesen, Patel and Covin (2011) described technological capability as the ability to perform any relevant

technical function or volume activity within the organization including the ability to develop new products and processes and to operate facilities effectively.

It was suggested by Porter (1985) that the ability of an organization to employ and develop a high technology for its product goes a long way in determining the strategic position to adopt whether it is that of the differentiation position or the cost leadership position. Further speaking, he argues that the ability of an organization to be able to lead and maintain technological change in the industry eventually give such organization a justifiable competitive advantage over others. The ability of technological capability to control the ability of the organization to perform should be a positive step for the organization to gain the competitive edge over others. For instance, for an organization that adopt the cost leadership strategy, there can be the enjoyable positive advantage of the relationship between the strategy adopted and performance if it has a significant technological capabilities. This implies that technological capabilities will help the organization to efficiently produce more products at the lowest cost possible thereby enhancing its economies of scale (Obembe, Ojo & Ilori, 2014).

Correspondingly, a higher technological capability also helps in achieving competitive advantage adopting the differentiation strategy by improving the quality of the product, adding new features and values to the product, and also improving the economies of scale of the organization (Chesaro, 2013). Much theoretical research have been focused on technological capabilities, however, there have been less research on its relationship with organizational performance (Tsai & Shih, 2014). Among researchers that have studied its relationship with organizational performance include Voudouris, Lioukas, and Caloghirou (2012). They looked at the relationship between technological capability and firm efficiency in Taiwan's manufacturing industry using total expenditure on R&D and on-the-job training as the proxy variables for technological capability. Their result found out there exist a positive correlation between technological capability and firm efficiency. Consequently, Shamsuddin, Wahab, Abdullah, and Kamaruddin (2012) in their work replaced technological capability with R&D expenditure, publications and

patents and discovered that there is also a positive correlation between those elements and firm's operational performance.

In spite of the economic restructuring programs supported by international monetary fund and World Bank in less developed countries, McCann, (2009) refers to technological capabilities as the ability to make effective use of technological knowledge in efforts to assimilate, use, adapt and change existing technologies. The likelihood that firms display technological capabilities is positively influenced by collaboration with extra-regional suppliers and with both locals and non-local clients, Gray (2006). Reagans, Zuckerman and McEvily (2004) argues that organizations that have higher technological skills appear to perform at the highest level, and also tend to be more innovative and creative. According to Teece, Pisano and Shuen (2017) technological capability is the ability to perform any relevant technical function or volume activity within the organization including the ability to develop new products and processes and to operate facilities effectively.

Correspondingly, a higher technological capability also helps in achieving competitive advantage adopting the differentiation strategy by improving the quality of the product, adding new features and values to the product, and also improving the economies of scale of the organization (Chahal & Kaur, 2014). Much theoretical research has focused on technological capabilities; however, there have been less research on its relationship with organizational performance (Tsai & Shih, 2014). Chahal and Kaur (2014) adopted business intelligence technologies, collaboration and distributed and knowledge application technologies. Business intelligence technologies enable a firm generate knowledge regarding competition while collaboration and distributed, allows individual in an organization to collaborate, knowledge discovery and finding new knowledge when knowledge application technologies enables a firm to use its existing knowledge.

Mouelhi (2008) examined the extent to which the use of information and communication technology contributed to efficiency growth in Tunisian manufacturing firms and how it varied according to the roles played in different branches. The study used a firm level

panel data for the manufacturing sectors in Tunisia to investigate whether adoption of ICT impacts on the efficiency in factors use and adopted principally the stochastic frontier approach. The results indicated that the variables included in the technical inefficiency model contributed significantly to the explanation of the technical inefficiencies.

Technological capabilities was measured by business intelligence technologies adopted by the firms in the manufacturing sector, the collaboration and distributed technologies that are shared among the firms in the manufacturing firms and knowledge application technologies that involve new technologies in the knowledge application.

2.3.3 Managerial capabilities

According to Parnell, Long and Lester (2015) managerial capabilities prevail as a result of distinctive capabilities and core competencies possessed by organizational members, workforce and employees especially senior or top level management. This arises as a result of specialized knowledgeable skills of experience through training and learning. Superior managerial capabilities have long been acknowledged as an important source to generate above normal rent for its organization (Hunt & Madhavaram, 2012; Parnell, Long & Lester, 2015). Management capabilities in an organization are usually required for communicating and implementing strategy, maintaining beneficial relationships with internal and external stakeholders (Dangol & Kos, 2014) and participating in organizational resource allocation and deployment such as, innovation and entrepreneurial systems (Basile & Faraci, 2015), and incentive systems (Simon, Klobas & Sohal, 2015). Specifically, several researchers claim that, in order for managers to perform their managerial tasks adequately, they must possess firm-specific knowledge which is history-dependent or acquired through learning by doing (Kearney, Harrington & Kelliher, 2014; Teeter, Preston; Sandberg & Jorgen, 2016).

According to Teeter, Sandberg and Jorgen (2016), Parnell, Long and Lester (2015) managerial capabilities prevail as a result of distinctive capabilities and core competencies possessed by organizational members, workforce and employees especially senior or top level management. This arises as a result of specialized knowledgeable skills of experience through training and learning. Furthermore, these managerial competencies are characterized by technical know-how and talents with personal attributes, personality profile and ethical codes of valuable traits as components on their competence and managerial capabilities. Managerial capabilities involve cognitive and tacit set of competences geared towards creativity of exceptional skills (Kunic & Morecroft, 2010).

Furthermore Helfa and Martin (2015) measured distinctive managerial capabilities in various instruments of competencies notably; knowledgeable problem solving. These managerial capability concepts acknowledge the risk taking dimension of decision making in order to sustain unique qualities to even warrant the action of poaching competent managers just to seek effective organizational performance. Fernandez-Mesa Alegre-Vidal, Chiva-Gómez and Gutiérrez-Gracia (2013) moreover recalls experienced management techniques comprising formal education. This assertion is capable of broadening the thoughtful scope of intellectual application in terms of soliciting ideas through brainstorming to execute corporate policies for better business performance.

Additionally, Kearney Harrington and Kelliher (2014) clarified managerial capabilities by emphasizing on corporate participation issues like conflict of interest, work rotation and quality assurance. Another school of thought by Helfa and Martin (2015) recalls personal affiliation and reasonable remuneration as factors of importance to nonfinancial consideration, non-bias promotions, ethical manners and behavioral standard by a code of conduct for business performance. These listed managerial capabilities strategically maximizes organizational performance through monetary profitability to undertake international trade transactions like exports and merger to facilitate a wider market share globally (Nedzinskas Pundzienė, Buožiūtė-Rafanavičienė & Pilkienė, 2013).

Furthermore, these managerial competencies are characterized by technical know-how and talents with personal attributes, personality profile and ethical codes of valuable traits as components on their competence and managerial capabilities. Managerial capabilities involve cognitive and tacit set of competences geared towards creativity of exceptional skills (Camison, 2005). Additionally, Camison, (2005) measured distinctive managerial capabilities in various instruments of competencies notably; knowledgeable problem solving. These managerial capability concepts acknowledge the risk taking dimension of decision making in order to sustain unique qualities to even warrant the action of poaching competent managers just to seek effective organizational performance. Fernandez-Mesa Alegre-Vidal, Chiva-Gómez and Gutiérrez-Gracia (2013) moreover recalls experienced management techniques comprising formal education. This assertion is capable of broadening the thoughtful scope of intellectual application in terms of soliciting ideas through brainstorming to execute corporate policies for better business performance.

Managerial capabilities are built from two underlying managerial resources, namely managerial human capital and managerial social capital (Adner & Helfat, 2013). In this study, managerial capabilities was measured by aspects of human capital: education (type and level) and work experience and social capital; social network ties (internal and external), network characteristics (size, closeness, strength, diversity and centrality) and relationships (with managers from other firms, business contacts, directors and government officials).

2.3.4 Knowledge Management capabilities

Knowledge management is the process of developing, transferring, transmitting, storing, identifying, acquisition, and implementing knowledge in an organization (Gholami, Asli, Nazari-Shirkouhi & Noruzy, 2013). According to Bollinger and Smith (2005), knowledge management is perceived as a strategic organizational asset. Darroch and McNaughton (2013) suggest that knowledge management is a process that creates or locates knowledge and manages the sharing, dissemination and use of knowledge in the

organization. The recognition of knowledge as a key resource for firms in the current business environment confirms the need for processes that facilitates individual and collective knowledge creation, transfer and leverage.

Capability exercised in knowledge articulation and routines affect the level of firm performance (Wang, Klein & Jiang, 2007). Vaccaro, Parente and Veloso (2010) reiterate that a firm's knowledge, skills and experience can create superior performance if a firm fruitfully uses them to add value. Chen and Fong (2013), reiterate that the superior performance of the firm is associated with capability-based advantages that are derived from superior access to and integration of knowledge. Knowledge management capabilities enhances dynamic capability leading to increase in organization performance (Tseng & Lee, 2012 ; Wang, Klein & Jiang, 2007) seem to agree that effective knowledge management enhances a firm performance through its ability to innovate, coordinate efforts, market new products and respond to market changes and challenges. Knowledge and knowledge development form the basis upon which innovation takes place leading to superior performance. Individual generated knowledge especially by employees may be shared within the organization's context to become institutionalized as organizations artifacts which may steer the organization into high levels of performance (Protogerou, Caloghirou, & Lioukas, 2011). Tseng and Lee (2012) see dynamic capabilities as an important intermediate organizational mechanism through which the benefits of knowledge capabilities are converted into performance effects.

Knowledge management can be a system for generating intelligence, disseminating intelligence and responding to intelligence. Empirical study by Wang and Kwok (2009) shows a direct relationship between management and knowledge management. Organizations are realizing how important it is to know who knows what and to be able to make maximum use of knowledge. Knowledge management is the process of developing, transferring, transmitting, storing, identifying, acquisition, and implementing knowledge in an organization (Gholami, Asli, Nazari-Shirkouhi & Noruzy, 2013). The above definition depicts that organizations should be able to identify and represent their knowledge assets, share and re-use these knowledge assets and create

a culture that encourages knowledge sharing Dutta Narasimhan and Rajiv (2005). According to Bollinger and Smith (2005), knowledge management is perceived as a strategic organizational asset. Darroch and McNaughton (2013) suggest that knowledge management is a process that creates or locates knowledge and manages the sharing, dissemination and use of knowledge in the organization. The recognition of knowledge as a key resource for firms in the current business environment confirms the need for processes that facilitates individual and collective knowledge creation, transfer and leverage. Knowledge management capabilities was measured by the accumulation of knowledge, knowledge protection and knowledge leverage.

2.3.5 Coordination capabilities

This is the coordinated utilization of firm resources in creating superior value for target customers and is closely tied to both customer orientation and competitor orientation (Mamat Ismail, Hassan, Bidin & Ismail, 2011). It originates from management concept which advocates that firms require coordinated efforts of different departments to create superior value for customers. It's a coordinated utilization of company resources in creating superior value for target customers (Tiantian & Yezhuang, 2015). It focuses on the coordinated utilization of personnel and other resources throughout the firm to create value for the target customers. Firms that seek coordination by understanding that synergy among company members are required to create value for customers (Tomaskova & Kopfova, 2011). Protogerou Caloghirou and Lioukas (2011) argue that every department or organization unit must be well defined and understood by all employees and know their role to sustain competitive advantage. Udoyi (2014) stressed the need for interaction; cooperation and form a relationship to satisfy customer needs through horizontal communication among members hence understand marketing information.

An organization is a pattern of relationship through which people under the direction of management pursue common goals and without coordination capability people will lose sight of their jobs within the total organization and be tempted to pursue independent

interest (Gligor & Holcomb, 2012). The dynamic capabilities framework argues that competitive advantage is tied to distinctive ways of coordinating resources and capabilities (Fu, 2014). Proper co-ordination can be realized with proper communication, task assignment and other related activities (Protogerou Caloghirou & Lioukas, 2011).

Tiantian and Yezhuang (2015) consider coordination capability as one of the dynamic capabilities that can be used to renew a firm's operational capabilities to enhance firm performance. Incumbent firms may be knocked out of market by new competitors who come in with new industry standards for lack of co-ordination capabilities (Gaur, Vasudevan & Gaur, 2011). Reconfiguration of functional competences of a firm lies in the effective inter-coordination of various tasks and resources and how different activities are synchronized to bring about dynamic capabilities that bring out the desired results (Koufteros, Rawski & Rupak, 2010).

Coordination when consistent with customer demands, decisions are made through open decision making process to gather a range of expertise and experience. This helps generate better customer value and superior firm performance. Tay & Tay (2007) refers coordination as the degree of co-operation between different functions of departments in the organization. It involves decision making and organizational learning (Uncles, 2000). The dynamic capabilities theory argues that competitive advantage is tied to distinctive ways of coordinating resources and capabilities (Sanchez & Heener, 2004). Proper co-ordination can be realized with proper communication, task assignment and other related activities (Protogerou Caloghirou & Lioukas, 2011). Coordination capabilities was measured by logistics synchronization, information sharing and incentive alignment.

2.3.6 Marketing capabilities

Marketing capabilities determine how well the organization is equipped to continuously sense changes in its market and to anticipate the responses to marketing actions (Al-Aali, Lim, Khan, & Khurshid, 2013). Karanja, Muathe and Thuo (2014) equated customer focus with market sensing capabilities which are capabilities manifested via organizational processes and values (customer orientation) and this allows the voice of the customer to be heard through the firm. It can be expressed in terms of knowledge competences outside an organization culture (Dubihlela, 2013). Success of firms depends on the capabilities that will help identify and exploit opportunities in the environment (Murgor, 2014). Market sensing capabilities are anticipatory capabilities which enables the firm to track the way that the market is moving in advance of competitors through an open approach to market information, development and interpretation and capture of market insights (Odhiambo, 2014) and also by seeking insights beyond the sources (Vorhies, Harker & Rao, 2011). Market sensing is a superior market learning capability (Merrilees, Rundle-Thiele & Lye, 2011) which plays a potential significant role in integrating a broader model of management while market capabilities is a dynamic capability (Sok & O'Cass, 2013). Management emerges from full decomposition of market sensing capability (Theodosiou, Kehagias & Katsikea, 2012).

To be effective innovators, organizations should constantly scan the horizon for new opportunities to satisfy their customers. Market oriented organization learn about customers, competitors and channel members in order to sense and act on events and trends in present and prospective markets (Nalcaci & Yagci, 2014). Successful firms must sense the needs of their target. Conceptualization of management which places an emphasis on generating, disseminating and responding to market information effectively which represents the nature of market sensing capabilities (Swaminathan, 2014). Market sensing can be seen from the following perspectives: learning orientation, organization systems, marketing information and organization communication. Learning orientation is the commitment to learning, shared vision and open mindedness while organization

systems are the organization structures, decentralization, formalization, reward system and benchmarking while marketing information is the development of marketing information system and organization communication which are the organization norms, values and decision criterion (Mohammadian & Mohammadreza 2012). Merrilees, Rundle-Thiele and Lye (2011) developed a structural model linking market capability to performance.

In a study by Nath Nachiappan and Ramanathan (2010), the results indicate that marketing capabilities determines superior financial performance. The role of marketing in achieving company' market and financial success is enormous (Nalcacia & Yaci, 2014). Marketing capabilities determine how well the organization is equipped to continuously sense changes in its market and to anticipate the responses to marketing actions (Day, 2011) and also contribute to expansion of business internationally (Ripolles, 2011). Foley and Fahy (2009) equated customer focus with market sensing capabilities which are capabilities manifested via organizational processes and values (customer orientation) and this allows the voice of the customer to be heard through the firm. It can be expressed in terms of knowledge competences outside an organization culture (Dubihlela, 2013). Success of firms depends on the capabilities that will help identify and exploit opportunities in the environment (Murgor, 2014). Market sensing capabilities are anticipatory capabilities which enables the firm to track the way that the market is moving in advance of competitors through an open approach to market information, development and interpretation and capture of market insights (Strader & Ramaswami, 2004) and also by seeking insights beyond the sources (Day & Bulte, 2002). Market sensing is a superior market learning capability (Stoelhorst & Van Raaij, 2004) which plays a potential significant role in integrating a broader model of management while market capabilities is a dynamic capability (Strader & Ramaswami, 2004; Olavarrieta & Friedman, 2007). Management emerges from full decomposition of market sensing capability (Foley & Fahy, 2009).

Conceptualization of management which places an emphasis on generating, disseminating and responding to market information effectively which represents the nature of market sensing capabilities (Day, 2007). Market sensing can be seen from the following perspectives: learning orientation, organization systems, marketing information and organization communication. Merrilees, Rundle-Thiele and Lye (2011) developed a structural model linking market capability to performance.

Marketing activities are created and performed as a direct functioning of an organization's (superior) capabilities (Day, 1994) and take place in customer value-creating processes (Srivastaval, 1999) and networks (Johanson & Vahlne 2011) . For example capabilities are manifested in such typical business activities as order fulfillment, new product development, and service delivery (Day 1994). In fact, there are a plethora of marketing activities that stem from marketing-based capabilities (Vorhies & Morgan, 2005). The foundation for the development and implementation of these marketing activities permeates the fabric of boundary-spanning marketing organizations, beyond the marketing department and the marketing function.

Day (1994) identifies three categories of capabilities manifested in marketing activities as inside-out (internal), outside-in (external), and boundary spanning as the broad categories of relevant activities for market-driven organizations. Examples of inside-out capabilities encompass financial management, cost control, technology development, integrated logistics, manufacturing/transformation processes, human resource management, and environment health and safety. Outside-in capabilities include market sensing, customer linking, channel bonding, and technology monitoring. Boundary-spanning capabilities encompass customer order fulfillment, pricing, purchasing, customer service delivery, new product/service development, and strategy development.

This collection of internal, external, and boundary-spanning marketing capabilities makes marketing as a role in the organization (Moorman & Rust, 2009) and society (Wilkie & Moore, 1999) complex, integrative, and critically important. Given that these capabilities are manifested in activities, the marketing activities define the scope of the

boundary-spanning marketing organization. As such, the focus on marketing activities is more critical in the formulation of the boundary-spanning marketing organization than other influences (e.g., environment, industry) and/or elements (e.g., strategy, structure). And, importantly, the marketing activities are derived from inside-out, outside-in, and boundary-spanning marketing capabilities rather than from the scope inherent in a marketing department or the traditional marketing function (Day, 2011). However Mariadoss, Tansuhaj, and Mouri (2011) expressed insufficient understanding whether the capabilities lead to certain positive organizational outcomes. Marketing capabilities were measured by brand management, market sensing capability, customer relationship management capability and consumer centric.

2.3.7 Managers Cognition

Cognition refers to the individual thinking. Cognition can be seen as both process and outcome of the action of individuals striving to understand their surrounding environment both consciously and unconsciously. The dictionary definition of cognition is twofold. The Oxford dictionary defines cognition first as a process: *'The mental action or process of acquiring knowledge and understanding through thought, experience, and senses'* (Oxford dictionary). The Oxford dictionary also offers a second outcome-oriented definition: *'A perception, sensation, idea, or intuition resulting from the process of cognition.'* Cognition can be seen both as a process of knowing and simultaneously as an outcome of the process of cognition. In this dissertation the dual nature of cognition is acknowledged. Managerial cognition is understood simultaneously as a process through which he Managing Director makes sense of the world, and on the other hand as a cognitive framework that guides the attention of the managing director.

In the previous literature, the relationships between firm performance and managers' cognition have been considered from different perspectives. Early research, for instance, focused on companies' responses to changes in the business environment (Barr & Huff 1997; Barr, Stimpert & Huff 1992; Reger & Palmer 1996), the cognitive complexity of managing director (Calori, Johnson & Sarnin 1994), competition (Daniels, Johnson &

Chernatony 1994; Hodgkinson & Johnson 1994; Porac & Thomas 1990; Porac & Thomas 1994; Porac, Thomas & Baden-Fuller 1989), and strategic groups (Reger & Huff 1993). More recent research has studied, for instance, relations from the perspective of the capability development of the firm (Laamanen & Wallin 2009; Eggers & Kaplan 2009; Kaplan 2008) and how cognitions are related to actions in different (i.e., stable or more dynamic) industries (Nadkarni & Barr 2008, Nadkarni & Narayanan 2007).

The early research on managerial and organizational cognitions focused particularly on MDs' or other top managers' cognitions on competition. Porac Thomas & Baden-Fuller (1989) study had a wide audience and is considered a classic in the field. In the study, Porac Thomas & Baden-Fuller (1989) suggested that rivalry is a cognitive construct formed within a competitive group. The present study uses their article as an illustration of the field of cognition in management research.

Manager's cognition was measured by knowledge structures (mental representation), mental processes (attention, perception, interpretation, reasoning, problem solving, judgment and decision, language processing) and emotions (regulation) (Lu, & Doshier, 2017).

2.3.8 Firm Performance

Firm performance is when a firm realizes proper coordination through effective communication, scheduling and task management (Protogerou Caloghirou & Lioukas, 2011). Theodosiou, Kehagias and Katsikea, (2012) also argues that firm performance can be realized through proper coordination of tasks that increase the efficiency and effectiveness of firm performance. There are no unanimously agreed measures of organization performance among scholars and practitioners (Ghalomi Asli, Nazari-Shirkouhi, & Noruzy, 2012; Ruekert & Walker, 2007; Hilman, 2014; Lin 2005; Bowen & Ostroff, 2004) measured organization performance in terms of multidimensional construct i.e. financial and non-financial measures. Lopez-Nicolas and Meroño-Cerdán

(2011), emphasized that organization performance must be enhanced for MO programs to be effective.

Vaccaro Parente and Veloso (2010) worked at organization performance in terms of cost and profitability while Wu and Lin (2009) looked at firm performance in terms of improving coordination efforts. Ruekert and Walker (2007) argued that firm performance is based on three dimensions: effectiveness (success of procedures such as changes of sales growth and market share), efficiency (ratio of input to output such as investment return and pre-tax profit), adaptability (responsiveness to opportunities afforded by changes in the business environment, for example, number of new products that succeed during particular time).

Rust, Amber, Carpentor, Kumar and Srivastava (2004) argued that firm performance outcomes result from market successes or when market positions are achieved and fundamental changes occur over time. Dornien and Selmi, (2012), identified three factors that determine firm performance: environmental-characteristic of industry, average profit and technological change, organizational factors-organization structure, company structure and company size, human factor-which includes firm chairman and management.

According to Ganeshkumar and Nambirajan (2013) firm performance can be measured by the following factors: Market share, Sales growth, Profit margin, Overall product quality, Overall competitive position, Average selling price, Return on investment and the Return on sales. The approach in measuring firm performance can be divided into two categories which are financial measures and non-financial measures. Alternative, firm performance can be measured by financial measures and strategic measures. Non-financial measures include aspects such as customer satisfaction, employee satisfaction, environmental performance, social performance, efficiency, effectiveness and relevance. In line with the above literature, financial measures and non-financial measures will be adopted to measure organizational performance in this study.

Matsuno and Mentzer (2000), consider economic and non-economic performance measures to understand the performance consequences of their strategies. Economic performance include: return on investment, return on assets, profit, sales volume, market share, revenue, product quality and financial position while non-economic factors include: customer loyalty, customer satisfaction, employee organization commitment, company image and social acceptance (Narver & Slater 1990; Jaworski & Kohli, 1993). Subjective performance measures include performance of the firm relative to their own expectations of their competitors and top management (Baker & Sinkula, 2005).

Bowen and Ostroff (2004) defined firm performance as use of firm's strategic objectives which includes organizational resources, capabilities and systems. The study used the indicators identified by Ruekert and Walker (2007) which include effectiveness (success of procedures such as changes of sales growth and market share), efficiency (ratio of input to output such as investment return and pre-tax profit) and adaptability (new products)

2.4 Empirical Review of Related Literature

A literature review is a text of a scholarly paper, which includes the current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic. Literature reviews use secondary sources, and do not report new or original experimental work. The literature review is important because it describes how the proposed research is related to prior research in statistics; it shows the originality and relevance of your research problem. Specifically, your research is different from other statisticians, it justifies your proposed methodology and it demonstrates your preparedness to complete the research. The literature review is a critical discussion and summary of statistical literature that is of 'general' and 'specialized' relevance to the particular area and topic of the research problem in statistics (Ranee, 2013).

2.5.1 Technological Capabilities and Firm Performance

A study by Obembe, Ojo and Ilori (2014) evaluated the effects of Technological Capabilities, Innovations and clustering on the performance of firms in furniture making industry in Southwestern Nigeria. The random sampling method was used from the furniture makers. Primary data was obtained using structured and unstructured questionnaires. Three hundred and sixty (360) questionnaires were administered to the furniture makers. The result showed a positive impact of technological capabilities, innovations, and clustering on the performance of the firms on new furniture products.

Similarly, Margarida, Maria and Madalena (2016) examined the impact of technological capabilities on organizational innovation and the influence of organizational innovation on export performance. Survey data of 471 exporting manufacturing firms based in Portugal was used to test the relationships between the constructs analyzed in this study. These were randomly selected from 3000 manufacturing firms. An online questionnaire, developed from the open source software Lime Survey, was the basis of the data used to test the model. The findings demonstrate that technological capabilities have a significant effect on organizational innovation intensity, which in turn has a positive impact on export performance.

Another study was conducted by Zawislak Cherubini Alves, Tello-Gamarra, Barbieux and Reichert (2012), investigated the relationship between investments in technological capability and economic performance in Brazilian firms. The study analyzed 133 Brazilian industrial firms that were listed in the major national stock market between 2008 and 2010. The study collected secondary data through these companies' annual reports and profit and loss statements, their websites. The relationship between investments in technological capability and firm performance was found to be positive and significant.

Further, Azubuike (2013) attempted to find out the relationship between technological innovation capability and firm's performance in new product development. Firms were selected randomly from the database from the Nigerian chamber of commerce. Survey design was adopted. The sample consisted of manufacturing firms drawn from six main manufacturing sectors in Lagos State, Nigeria. Ten firms were selected randomly and questionnaires were applied simultaneously through surveys and randomly selected face-to-face interview were arranged concurrently. The survey findings verified the existence of correlation between technological innovation and firm performance on new product development.

2.5.2 Managerial Capabilities and Firm Performance

Kenyan scholars Lee and Klassen (2008) sought to identify the influence of managerial capabilities in fostering SMEs participation in public procurement. The study adopted cross sectional survey design. The population of the study consisted of all the four mobile companies operating in Kenya. The study used primary data which was collected through self-administered structured questionnaires. The findings of the study were that the managerial capabilities and skills in business available or is able to obtain in due time, improvement of climate for innovation which includes an organized, systematic, and continual search for new opportunities, innovation strategy which has been linked to available resources, the corporate strategy, the marketing function and the information technology functions.

In addition, a study by Sinkeet (2015) sought to identify the challenge of strategic management of resources such as management capabilities in the devolved system of Governance in Kajiado County. This study adopted a descriptive survey design. The study used a descriptive survey approach in collecting data from the respondents. The study undertook census survey which involved the use of the entire target population of thirty six (36) respondents consisting of departmental heads and their deputies as a sample. The study used questionnaires to collect primary data. The findings revealed

that strategic management of resources which included managerial capabilities had significant positive influence in the devolved system of governance in Kajiado County.

Further, Yin (2012) aimed to identify alter competitive advantage creation path in Chinese lodging industry where the two resource-based constructs, managerial capability and organizational culture examined their effects on hotel's financial performance and customer satisfaction. Data were collected from the tourist hotels' senior managers from three star and above in two North-East cities in China. The census sampling was applied in both cities, which was according to the local Municipal Bureau of Tourism database. A total of 411 hotels met the sampling criteria and same amount of questionnaires were distributed. The findings revealed that there was statistically insignificant relationship between managerial capability and financial performance.

Furthermore, Ahmed (2017) sought to examine the relationship between development, managerial capabilities and managerial performance and its influence on the overall organizational performance: in the context of size of the organization and ownership. The random sampling technique was used in selection of the sample organizations that included the organizations from manufacturing and service sector. The structured questionnaire was adopted to get the structured and standardized responses for statistical analysis purposes. The survey method and face-to-face interview approach was used. The findings revealed that there is a relationship between managerial capabilities, managerial performance and organizational performance.

Another study by Aduloju (2014) sought to find out whether IT investments and IT managerial capabilities can account for variations in customer service performance among insurance companies in Nigeria. Using survey research design, the three formulated hypotheses were tested with data gathered from 402 staff at the managerial level drawn from the selected insurance companies in Nigeria, which have been among the largest investors in IT, and where customer service is widely perceived as strategically important. Responses were analyzed using linear regression. A major finding of this study was that IT is a necessary, but not sufficient, condition for

sustainable competitive advantage in customer service. Results showed that the interaction of IT investments and tacit, path-dependent, and firm-specific IT managerial capabilities significantly explains variations in customer service performance.

2.5.3 Knowledge Management Capabilities and Firm Performance

Huda, Mohammad and Binti (2014) sought to find out the Influence of Knowledge Management Capabilities on Organizational Performance of Private University in Malaysia. The study employed a quantitative approach; the population of the study was the entire postgraduate students, academic and non-academic staff at the university. A non-probability convenience sampling technique was employed. A total of 39 respondents participated in this study. Data was collected using Questionnaires. The casual effect of the relationship was tested by using regression analysis. The finding confirms the proposed effect of knowledge management capability on performance.

A similar study was conducted by Onyango (2016) who sought influence of Knowledge Management capabilities on performance of international humanitarian organizations in Kenya. The study employed a descriptive survey design. There was no sampling in this study since there are not many international humanitarian organizations in Kenya; therefore, this study adopted a census approach since the population was not large. Primary data was sought from management using a self-administered semi structured questionnaire. The study then concluded that KM capabilities affect the performance of international humanitarian organizations in Kenya.

Chengecha (2016) also sought to determine whether knowledge management capability is related to competitiveness of firms in the banking industry in Kenya, and to establish how firms in the Kenyan banking industry create, manage and share knowledge. This study used descriptive survey design. Population for this study included all the commercial banks in Kenya. The study made use of primary data which was collected through semi structured questionnaire. The study established that the knowledge

capability that most of the banks in Kenya that are involved in are knowledge and that the technology of the bank enables it to relate better with customers to a great extent.

Moreover, Musuva, Ogutu, Awino and Yabs (2013) specifically considered the effect of organization innovation intensity, knowledge capability and adaptive capability on the degree of internationalization and performance. The sample size (n=50) for this study was recognized to be small but acceptable. The proposed model was tested based on data drawn from a survey of internationalized publicly quoted companies in Kenya. The results show that knowledge capabilities have a positive influence on the degree of internationalization and performance of a firm.

Similarly, Mararo (2013) conducted a study on knowledge management practices as a competitive tool in insurance companies in Kenya. The aim of this research was to find out if insurance companies in Kenya are using knowledge management tools as a means of attaining competitive advantage in the industry. Descriptive statistics technique was used to analyze the quantitative data. Coding was done in SPSS, analyzed thematic technique was applied in analysis of qualitative data. The study found that knowledge management practices have a positive and significant effect on competitive advantage.

2.5.4 Coordination Capabilities and Firm Performance

Mandal and Korasiga (2016) investigated an integrated-empirical logistics perspective on supply chain innovation and firm performance. The study hypothesis was to test if coordination capability positively moderates the relationship between demand management interface capability and logistics integration. The final set of respondents was chosen randomly from a contact list that was purchased from an Indian Marketing Research Firm. The data was collected through a web based electronic survey. The findings revealed that coordination capability positively moderates the relationship between demand management interface capability and logistics integration.

A further study was conducted by Rico, Hinsz, Davison, and Salas (2017) conducted a study on structural influences upon coordination and performance in multiteam systems. The study integrates aspects of functional process interdependence and different integration mechanisms used within MTSs to better elucidate how different coordination processes emerge. The study found that coordination have a positive effect performance of systems.

Worku and Helina (2014) conducted a study on strategic coordination of operations by save the children organizations in Kenya. The task forces were employees of the four SC offices in Kenya who in addition to their assignment in their respective organization implement the decisions taken at the directors meeting. The researcher has seen advantages in the coordination of operations in line with effective utilization of resources. The four SC organization share information, update one another on issue to be address formally in monthly meetings or informally since SC Sweden and SC Finland share the same building. SC Canada and SC UK country program office located in a different area share the same floor. The challenges observed by the researcher was the 2012 goal to be one organization seems unclear how each SC organization will be represented and how it is going to be handled how the structure will accommodate each of the employees in it. Since it is under discussion the researcher found out that the representatives are not comfortable to discuss about the steps that are going to be taken.

2.5.5 Marketing Capabilities and Firm Performance

Udoyi (2014) sought to determine the relationship between marketing capabilities and the performance of commercial banks in Kenya. The study adopted the descriptive survey research design. The study population comprised all the commercial banks in Kenya. Since the study population was manageable, the study adopted the census survey in the collection of data and included all the 43 commercial banks in Kenya. A structured, self-administered questionnaire was utilized in collecting the data. The study established that there was a significant positive relationship between bank performance and inter-functional coordination.

More so, Karanja, Muathe and Thuo (2014) sought to determine the effect of marketing capabilities on the performance of mobile service provider intermediary organizations. This study employed a descripto-explanatory cross-sectional survey research design. The study collected primary data from 219 respondents drawn from a target population of 397 selected using stratified and simple random sampling. It established that marketing capabilities contributed significantly to the intermediary organizations' performance. Other studies by Chege, Muathe and Thuo (2014) sought to determine the effect of marketing capabilities and distribution strategy on the performance of intermediary organizations. This study employed a descripto-explanatory cross-sectional survey research design. The study collected primary data from 219 respondents drawn from a target population of 397 selected using stratified and simple random sampling procedures. A semi-structured questionnaire was used to collect data. This study established that marketing capabilities and choice of distribution strategy had a composite effect in contributing significantly to the Intermediary organizations 'performance.

In addition, Odhiambo (2014) sought to assess the influence of organizational culture, marketing capabilities, market orientation and industry competition on performance of microfinance institutions in Kenya. A descriptive cross-sectional survey was used. Secondary data were collected from annual industry performance reports. Primary data were collected through structured questionnaire. Data were analyzed through descriptive statistics, contingency tables, Chi-square tests, factor analysis and regression analysis. Results of Cronbach's alpha test confirmed reliability of all the measurement scales used in the study. Results revealed that the influence of organizational culture was stronger on non-financial performance than financial performance. The results also revealed that marketing capabilities had strong statistical predictability of firm performance.

A study done in the USA and Slovenia by Breznik and Hisrich (2014) found that marketing capabilities affect performance of micro and small family businesses as a result of the dynamism hence adjusting to innovativeness. Businesses achieve this through new product development differentiations like distinctive branding and unique

packaging to promote profitability. Moreover, an empirical study conducted by Nguyen and Nguyen, (2011) in Vietnamese firm's buttresses the fact that business performance can greatly affect marketing capabilities to gain superior competitiveness. For instance; premium pricing, warranty and guaranteed, goodwill, new markets discovery, brand positioning, global capacity building, entrepreneurship etc.

2.5.6 Organizational Capabilities, Managers Cognition and Firm Performance

Jenkins and Johnson (2007) conducted a study on linking managerial cognition and organizational performance. The study considered the potential relationship between individual cognition and organizational performance. A series of causal maps were elicited from the owner managers of retail businesses which are either growing or static and contracting. The maps were compared using a series of propositions to establish whether individual cognition is consistent with the contrasts which would be expected between relatively high and low performing businesses. When the general characteristics of the maps were compared no significant differences were found when the propositions are evaluated. However, a subsequent inductive phase of analysis suggested that more detailed insights can be gained through a focus on the relationships between specific types of concept within the individual maps. In contrast to the assumptions made in many mapping studies, this finding suggested that it is the idiosyncratic details of map content and structure which provided the basis for exploring the relationship between cognition and performance, rather than the overall characteristics of the maps

Uotila (2013) conducted a study on managers' cognitions on performance of the firm. The study first explores the performance models found in the academic business literature. The managerial cognition research stream offers a theoretical background to understand the MDs' thinking. Content analysis, cognitive mapping, and the analysis of rhetoric are used to understand the MDs' cognitions related to firm performance. The performance literature presents ideal performance models which consist of harmonious elements. The results in this study indicate that the MD's cognitions on firm performance are different. MDs' personal and cultural history moulds managerial

cognitions. The results suggest, that the MD's cognition on firm performance produced by his/her personal and cultural history, is always partial, revealing some aspect of reality.

Gao (2009) conducted a study on managerial cognition on corporate social responsibility and corporate performance in China. Using a proprietary dataset collected from 223 listed firms in China in 2009, the study examined whether managerial CSR cognition can explain CSR practices and corporate performance. The study found that managerial CSR cognition is positively related to CSR practices and corporate performance. However, inconsistent with the cognitive–affective model, the study did not find evidence that CSR practices have a significant mediating effect on the relationship between managerial cognition and corporate performance. Both managerial cognition and CSR practices explained corporate performance when jointly estimated. In particular, managerial cognition (CSR practices) is positively (negatively) associated with corporate performance, regardless of whether or not they control for firm characteristics. This result is consistent with the view that stock investors in China hold a self-conflicting view on managerial cognition on CSR and its impacts. On the one hand, they appreciate managerial cognition on CSR, while on the other hand they worry about the potential adverse implications of adopting CSR practices on corporate performance.

Chen and Wang (2009) examine the role of CSR cognition in determining the relationship of CSR strategy and firm life cycle. Their analysis of 319 questionnaire responses reveals that firms of different size and/or at different stage of life cycle have different CSR cognition and CSR strategies. Chen and Wang interpret this evidence as not supporting the view that each firm should assume all kinds of social responsibilities, suggesting that this view is harmful to the firm growth and may hinder firms from engaging in CSR activities.

Zu and Song's study (2008) examined managerial values/perception on CSR and its impact on firm performance by conducting a survey on 100 firms in China. They find that managerial values/perception can positively affect the firm's sales performance. Our paper is similar to their paper in the sense that both examine the relationship between managerial perception and corporate performance. However, our paper is different from their paper in the following ways: First, they focus on managerial perception while our paper deals with managerial cognition. Obviously, managerial perception and managerial cognition are related concepts. The former refers to the process that organizes sensations (i.e., a process that detects stimuli from the firm or its surroundings) into meaningful patterns while the latter is the process of thought that generalizes perception by recognizing the limitations of memory and the role of judgment in the process of knowing.

2.5.7 Firm Performance

Mwazumbo (2016) conducted a study on Organizational resources, dynamic capabilities, environmental dynamism and organizational performance of large manufacturing companies in Kenya. The study revealed that organizational resources have significant influence on organizational performance; organizational resources has significant influence on dynamic capabilities; the external dynamism has no significant moderating influence on the relationship between organization resources and dynamic capabilities. Dynamic capabilities have no significant intervening influence on the relationships between organizational resources and financial performance but have a significant intervening effect on the relationship between organizational resources and non-financial performance; the joint effect of organizational resources, dynamic capabilities and environmental dynamism on organizational performance is significantly different from the independent effect of each study variables. This study confirmed the relevance of using a cross sectional survey and regression analysis. Regression analysis was used to provide inferential statistics, while Pearson's correlation was found relevant in correlation of the variables. The study recommends future research on specific concepts on organizational resources and dynamic capabilities on how they alter the resource base

using case studies and longitudinal studies with a focus on organizations that have fully embraced the sustainable balanced scorecard as a tool for measuring organization and performance.

Momanyi (2014) conducted a study on enterprise resource planning system adoption and organizational performance of manufacturing firms in Kenya. The findings stipulated that the majority of the respondents agreed to a very great extent that the firm's competition from other companies; cost saving and other financial reasons, business innovations, business strategic positioning were the major drivers that motivated the organization to adopt the ERP system as indicated by scores. The findings on organizational performance also deduced that the majority of the respondents agreed to a very great extent that the firms have better return on investment, improved data security, improved decision making process and reduced cost of production. The study concludes that respondents were highly experienced owing to the accumulation of knowledge and skills throughout the working life and the level of education was medium to high. The study also concludes that majority of the firms were limited companies and locally owned. On adoption of the system, the study concludes that most manufacturing Firms have adopted the ERP System with virtually all modules implemented.

Kamau (2013) conducted a study on buyer-supplier relationships and organizational performance among large manufacturing firms in Nairobi, Kenya. The research design involved a cross sectional survey of 56 large manufacturing companies in Nairobi, Kenya. Percentages and frequencies were used to analyze objective one and objective two whereas regression analysis was used to analyze the relationship between buyer – supplier relationships and organizational performance among large manufacturing firms in Kenya. The findings are presented in tables. It is clear that there is a significant relationship between buyer – supplier relationships and organizational performance represented by R2 value of 0.723 which translates to 72.3% variance explained by the five independent variables of trust, communication, co-operation, commitment and mutual goals.

Meme (2017) conducted a study on board characteristics and financial performance of manufacturing firms listed at the Nairobi securities exchange in Kenya. This study adopted a descriptive research design. The study estimated a Panel Data Regression Model which was analyzed using Stata 12. The study findings were presented in tables to enable effective and efficient interpretation. The study results indicated that board characteristics in regard to board size, board diversity and board independence has a significant effect on the financial performance of listed manufacturing firms in Kenya. The results also showed that firm attributes has a significant moderation effect on the relationship between board characteristics and financial performance. Based on the research findings, the study proposed that the listed manufacturing firms in Kenya should stick to the recommended board size, board diversity and board independence as the study found a significant relationship between board characteristics and financial performance.

Onyango Wanjere, Egessa and Masinde (2012) conducted a study on organizational capabilities and performance of sugar companies in Kenya. The study adopted casual comparative research design while purposive sampling technique was used to select the respondents, who were mainly the departmental heads from all the sugar companies in Western Kenya. From the study findings, there exists a statistically significant correlation between organizational capability and performance of sugar manufacturing firms ($r= 0.653$, $p \leq 0.01$). The findings of the study forms a basis of reference by interested parties in strategic management in future.

Kiliungu (2014) conducted a study on human resource management practices and their effect on employee performance in the manufacturing companies in Meru county of Kenya. Regression analysis was done to establish the relationship between various HRM practices and employee performance. Data was coded and presented in form of tables, charts and graphs. Based on the findings, investments in recruitment and selection, training and development, and compensation and rewards system were found to have a significant positive causal link on employee performance in terms of commitment, innovativeness, efficiency and effectiveness which lead to company performance. The

effectiveness, in which companies managed, motivated and engaged the willing contribution of the people who worked in them is a key determinant on how well those companies performed. The more the effective implementation, the more motivated, satisfied, and productive employees.

2.6 Critique of Empirical related Literature

The studies conducted by Wang, Zhu and Bao (2017) found out that there is positive influence of conventional inter-functional coordination practices and marketing performance. The study only focused on conventional inter-function practices and performance which was based on marketing outcomes. Further, the study employed case study design approach which focused on a single firm in the market which has its limitation in applicability and generalization of the findings. By using a survey method, researchers can collect quantitative data on firm performance (e.g. profitability, marketing expenses, customer satisfaction, customer retention, other numerical measures of performance, etc.) and on firm characteristics (e.g. number of functional units, number of employees, number of employees in production unit, frequency of inter-functional coordination, quality of inter-functional relationship, other quantifiable measures of inter-functional coordination, etc.)

Udoyi (2014) established that there was a significant positive relationship between bank performance and inter-functional coordination. Though the research gave results it cannot be prudent to rely on them as only banks in Mombasa County were used in analysis hence this cannot be a representative of all banks in Kenya which are coordinated from the headquarters.

Contrarily, Huda, Mohammad and Binti (2014) carried a quantitative study to find out the influence of knowledge management capabilities on organizational performance of private university in Malaysia. However, it is notable that the element of knowledge management capabilities is lacking the emphasis on knowledge sharing. Similarly, the study failed to point out which element in knowledge management capability can lead to

superior performance while Onyango (2016) concluded that knowledge management capabilities affect the performance of international humanitarian organizations in Kenya. However, the study was specifically conducted in humanitarian organizations which are controlled by donors. The study also failed to evaluate performance of humanitarian organizations in relation to each variable such as technological advancement.

A study conducted by Chengecha (2016) carried a descriptive survey study to determine whether knowledge capability is related to competitiveness of firms in the banking industry in Kenya, and to establish how firms in the Kenyan banking industry create, manage and share knowledge. The study failed to establish whether there is consistency on knowledge capability as a strategic resource to enhance firm competitiveness as it focused only in banking industry which is dissimilar to manufacturing industry. However, Musuva, Ogutu, Awino and Yabs (2013) showed that knowledge capability have a positive influence on the degree of internationalization and performance of a firm. However it should be noted that this was a census of 58 publicly quoted companies and the response rate was adequate to draw conclusions about the population. The cross sectional data may have been affected by the respondent's predisposition of any events that have happened in the past or conditions at the time of filling in the questionnaire.

Obembe, Ojo and Ilori (2014) revealed that technological capabilities have positive impacts on the performance of the firms on new furniture products. Though the sample was adequate the study failed to categorize the firms according to their sales as they were other firms which serve market that is yet to develop. Margarida, Maria and Madalena (2016) demonstrated that technological capabilities have a significant effect on organizational innovation intensity, which in turn has a positive impact on export performance. In this study, technological capabilities were used as moderating variable and the study failed to point out its effect on organizational innovation intensity and export performance. However, Reichert and Zawislak (2014) found out that relationship between investments in technological capability and firm performance was found to be positive and significant. The study utilized only secondary data which was not sufficient to measure technological capability of the firm. Azubuike (2013) survey findings

verified the existence of correlation between technological innovation and firm performance on new product development. The methodology was appropriate for the study but the small sample could not be generalized to all the firms.

A study conducted by Sinkeet (2015) revealed that strategic management of resources which included managerial capabilities had significant positive influence in the devolved system of Governance in Kajiado County. The sample size of 36 respondents was small as it focused on departmental heads and their deputies. However, the study failed to reveal how performance of Kajiado County was measured from devolved system of governance. Yin-His (2012) revealed that there is statistically insignificant relationship between managerial capability and financial performance. Majority of the methodologies used have not addressed the descriptive survey design. Ahmed (2017) revealed that there is a relationship between managerial capabilities, managerial performance and organizational performance. However, in terms of conceptualization this study focused on a limited set of variables that had been strongly linked to performance in prior research. This may have resulted in lack of a more robust test of the relationship existing between the various factors of the study variables.

Another study conducted by Fernandez-Mesa Alegre-Vidal, Chiva-Gómez and Gutiérrez-Gracia (2013) and Kearney Harrington and Kelliher (2014) indicated that managerial capabilities had significant influence on organizational performance in European countries. The studies had been carried out in western countries, managerial capabilities were used as mediated variable which make it difficult to bring out the direct effect of managerial capabilities. However, Ahmed (2017) revealed that there is a relationship between managerial capabilities, managerial performance and organizational performance but the study focused on both manufacturing and service sectors which have indifferent industry characteristics. Further, within the manufacturing sector, the study failed to stratify the industry according to the type of products they deal with. This current study focused on cement manufacturing firms.

Karanja, Muathe and Thuo (2014) established that marketing capabilities contributed significantly to the Mobile service provider Intermediary organizations' performance. Operationalization of marketing capabilities using market management capabilities was found inadequate. However, Breznik and Hisrich (2014) revealed that marketing capabilities affected the performance of micro and small family business. The study was carried out in western countries where family businesses are advanced unlike in developing countries like Kenya where they cannot manage fifth year of existence. Odhiambo (2014) found that marketing capabilities had strong statistical predictability of firm performance of microfinance institutions in Kenya. The sample size of 55 respondents was deemed small for this kind of study bearing in mind there are over 55 MFIs in Kenya. Further, the study failed to relate the findings of this study with theoretical framework that guided the study.

2.7 Research Gaps

A study by Obembe, Ojo and Ilori (2014) evaluated the effects of Technological Capabilities, Innovations and clustering on the performance of firms in furniture making industry in Southwestern Nigeria. Although the study sought to address the problem of firm performance through technological capabilities, it was conducted in Nigeria thus presenting a scope gap and also focused solely on furniture making thus failure to address the problem in the manufacturing industry in Kenya. A study by Margarida, Maria and Madalena (2016) examined the impact of technological capabilities on organizational innovation and the influence of organizational innovation on export performance. The study although it attempted to find a solution to performance through technological capabilities, it was not conducted in Kenya but in Portugal thus presenting a scope gap. Zawislak Cherubini Alves, Tello-Gamarra, Barbieux and Reichert (2012), investigated the relationship between investments in technological capability and economic performance in Brazilian firms. The study was conducted in Brazil thus presenting a scope gap. The study thus failed to address the poor performance of manufacturing firms in Kenya.

Kenyan scholars Lee and Klassen (2008) sought to identify the influence of managerial capabilities in fostering SMEs participation in public procurement. The study focused on effect managerial capabilities in fostering SMEs participation in public procurement thus presenting a conceptual gap. The study sought to expound on SME participation in public procurement through possession of managerial capabilities. It therefore failed to address the problem evident in the manufacturing industry. The current study will focus on managerial capabilities and organizational performance of manufacturing firms.

Ahmed (2017) sought to examine the relationship between development, managerial capabilities and managerial performance and its influence on the overall organizational performance: in the context of size of the organization and ownership. The methodology used, the location of the study and the context under which the study was conducted differed from the present study. Therefore, the study was not able to solve poor performance of manufacturing firms in Kenya.

Huda, Mohammad and Binti (2014) sought to find out the influence of knowledge management capabilities on organizational performance of Private University in Malaysia. Although the study focused on knowledge management capabilities and performance of organizations, the context was different from the current study in that it focused on the education sector as well as being conducted in Malaysia which is a developed country as opposed to Kenya, a developing nation. It was therefore impossible to generalize the findings to Kenyan manufacturing industry.

Jenkins and Johnson (2007) conducted a study on linking managerial cognition and organizational performance. The study while seeking to relate managers cognition with the overall organizational performance, it failed to focus on the Kenyan manufacturing industry. Further, the current study sought to determine the moderating effect of manager's cognition on the relationship between organization capabilities and performance of insurance firms.

More so, Karanja, Muathe and Thuo (2014) sought to determine the effect of marketing capabilities on the performance of mobile service provider intermediary organizations. This study employed a cross-sectional survey research design thus presenting a methodological gap. The current study used descriptive research design. The study also presented a gap in that it concentrated on mobile service providers who are in a different sector which make it impossible to generalize the findings.

2.8 Summary of the Chapter

The chapter looked at theoretical review, conceptual and empirical review. Under theoretical review, a number of theories relevant to the study were discussed. These theories included resource based view, dynamic capabilities theory, knowledge based theory and adaptive structuration theory. The literature revealed that majority of the previous studies focused on resource based theory and a few of them on dynamic capability theory leaving few of the study to adaptive structuration theory and knowledge based theory.

The chapter also addressed the conceptual framework on which the study was anchored and the variables have been reviewed backed with literature. It was revealed that coordination capabilities as one of strategic organizational capabilities has been sparingly studied. However, the literature review revealed that few studies have used more than three of the variables that this study intended to use (Managerial, coordination, technological, marketing and knowledge based) which leaves a significant gaps that this study intends to fill

Finally various studies with their results, methodology and critique were reviewed under empirical review with some study indicating positive relationship between organizational capabilities constructs and performance while others indicating negative relationship. Additionally from the empirical review, the study was able to critique the relevant literatures and thereby isolate various research and knowledge gaps which formed the basis of this study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter highlighted the methodology that the researcher used in this study, explaining the research design and citing reasons for choosing a particular methodology. It described the subjects, sampling and data collection procedures and how the data collected was analyzed. The research instruments and design that were used both in the survey and conclusive research were also presented.

3.2 Research Philosophy

A philosophical argument leads a researcher into picking the research design. The philosophical argument represents a vision that influences the technique. This research adopted the positivism philosophy that believes that reality is stable and can be described from an objective viewpoint without interfering with the phenomenon being observed. Positivists contend that the phenomena being studied can be isolated and that the observations are repeatable (Lewin, 1988). As indicated by Creswell (2014), positivism applies where the observer is independent, external and objective of that being researched.

3.2 Research Design

Research design is the pattern that the researcher intends to follow, the plan, framework or strategy for conducting the research (Oso & Onen, 2009). This study was conducted through a descriptive research design. According to Labaree (2013), descriptive studies are more formalized and typically structured with clearly stated hypotheses or investigative questions. It serves a variety of research objectives such as descriptions of phenomenon or characteristics associated with a subject population, estimates of

proportions of a population that have these characteristics and discovery of associations among different variables.

A descriptive survey research according to Kim, Sefcik and Bradway (2017) seeks to obtain information that describes existing phenomena by asking individuals about their implementations, attitude, behaviour or values. This study will be facilitated by the use of primary data. The descriptive studies involve collecting information without changing the environment in which the phenomenon exists.

3.3 Target Population

A target population is a well-defined set of people, elements, events, group of things or households that are being investigated to generalize the results (Ngechu, 2004). The target population consisted those in Nairobi and its environments which includes Ruiru, Thika, Limuru, Kiambu and Machakos as listed by KAM which are 513. Nairobi was considered the best area to carry out the study because it has the highest number of manufacturing firms in Kenya. It was therefore considered to be a good representation of all the manufacturing firms in Kenya.

3.4 Sampling Frame

A sample frame is a list of population elements from which the sample is drawn to represent the target population (Saunders, Thornhill & Lewis, 2009). It is also known as the working sample. The sampling frame for this study was a list of all the top level managers for all 513 manufacturing firms in Nairobi, Limuru, Thika, Kiambu and Machakos.

3.5 Sample Size and Sampling Techniques

A sample is a proportion of the subjects of the study used to represent the whole population (Cooper & Schindler, 2008). In sampling, some elements are selected from the actual population as a representation but should be large enough to detect a

significant effect (Kerlinger & Lee, 2000). The researcher adopted Yamane, (1967) formula that can be used to calculate a suitable sample for the study as follows

$$n = \frac{N}{1 + Ne^2}$$

Where n = Minimum Sample Size; N = population size: - e = precision set at 95 % (5%=0.05)

$$n = \frac{513}{1 + 513 * 0.05^2}$$

$$n = 224.7535597 \approx 225$$

Sampling techniques are strategies or statistical techniques used to select individual observations that are intended to offer some knowledge about a population of study and purposes of statistical inference (Oso & Onen, 2009). Sampling techniques include probability and non-probability sampling.

This research incorporated two sampling techniques, simple random sampling and stratified sampling. . Stratified random sampling technique was used to stratify the target population into strata according to their sub sectors. Stratified random sampling was adopted since the population is heterogeneous; hence the population was divided into homogenous strata in order to enable sampling to be conducted separately in each stratum. Simple random sampling was then applied in selecting the individual firms from each stratum and in selecting 1 respondent (top level manager) from each selected firm.

Table 3.1: Sample Size

Sub- Sector	Target	Sample (Firms)	Sample (top level manager)	Percentage
Building, Construction and Mining	15	7	7	3
Chemical and Allied products	62	27	27	12
Energy, Electrical and Electronics	32	14	14	6
Food, Beverages and Tobacco	130	57	57	25
Leather and Foot wear	7	3	3	1
Metal and Allied	50	22	22	10
Motor Vehicle and Accessories	17	7	7	3
Paper and Board sector	60	26	26	12
Pharmaceuticals and Medical Equipment	16	7	7	3
Plastic and Rubber	63	28	28	12
Textile and Apparels	48	21	21	9
Timber, Wood and Furniture	13	6	6	3
Total	513	225	225	100

The Source: KAM 2016

3.6 Data Collection Instruments

These are tools used to measure the variables of the study (Mugenda & Mugenda, 2011). The study used structured questionnaires to collect data. The selection of questionnaires was based on the nature of the data to be collected. Questionnaires was divided into sections, section A contains items on background information of the respondents, section B the organizational information and section C contains items on the strategic organizational capabilities of the manufacturing firms. The questionnaire had both open ended questions and closed questions. Open ended questions for detailed information and closed ended questions on facts about variables. The questionnaires were answered using a 5 likert scale of Agree, Strongly agree, Disagree, Strongly disagree and Uncertain. The respondent was to tick one of them (Appendix II).

3.7 Data Collection Procedure

The researcher collected data from employees using self-administered questionnaires. Questionnaires were administered through drop and pick with the help of research assistants since the research was covering a wide area. The questionnaires were used as it is more economical, free from bias and the respondents can have enough time to respond.

3.8 Pilot Study

Pilot test is used to detect and remedy any possible errors in questionnaire design prior to administering the main survey. It is used to refine and revise questionnaire to ensure validity and reliability of the research instruments. The pilot test also helps determine a sample size of the main study hence important part of survey instrument. The pilot study covered 22 respondents representing 10 percent of the target population but not included in the sample. Mugenda and Mugenda (2011) recommends between 1 and 10 percent of the actual sample size.

3.8.1 Validity of Research Instrument

Validity is the degree to which an instrument measures what it claims to measure (Golafshani, 2013). Validity of instruments depends on the ability and willingness of the respondents to avail the information required (Sekaran & Bougie, 2009). A pre-test of questionnaire was conducted to establish its validity (Oppenheim, 2010). The study used content validity. Content validity refers to the content or meaning of every measurement item which must be established prior to any theoretical (Golafshani, 2013). Expert judgment can be used to enhance content validity through identifying weaknesses and trying to correct (Best & Kahn, 2011).

3.8.2 Reliability of Research Instrument

The internal consistency was the main focus hence the study employed Cronbach's alpha to verify the internal consistency of each construct in order to achieve reliability. The result of 0.7 and above implied acceptable level of internal reliability. A pilot study was useful in testing research instrument reliability. The respondents in the pre-test were not included in the actual research but this helped to evaluate the questionnaire in order to determine its clarity before it is administered to the respondents. Amendments to the questionnaire were also conducted to develop a final version of the questionnaire to be used in the survey.

After verifying the reliability constructs, the study proceeded to construct a summated scale for each construct by taking the average of items within particular construct. The summated constructs were used for correlation analysis and multiple linear regressions. The correlation analysis was considered a preliminary test of the relationship between the variables of interest. The multiple regression analysis attempted to establish the relationship between the strategic organizational capabilities and firm performance.

3.9 Diagnostic Tests

3.9.1 Multicollinearity

Multicollinearity (also collinearity) is a phenomenon in which one predictor variable in a multiple regression model can be linearly predicted from the others with a substantial degree of accuracy. In this situation the coefficient estimates of the multiple regression may change erratically in response to small changes in the model or the data. Multicollinearity occurs when independent variables in a regression model are correlated. This correlation is a problem because independent variables should be independent. If the degree of correlation between variables is high enough, it can cause problems when you fit the model and interpret the results.

High degree of correlation between variables brings about the problem of multi-collinearity (Kothari & Garg, 2014) and hence independent variables should not correlate highly with one another (Ramakrishnan, 2013). Correlation coefficient (r) values are accepted when they lie between 0.3 and 0.7.

Multi-collinearity of variables was tested by using the tolerance value with tolerance level of more than 0.1 and variance inflation factor (VIF) with a tolerance level of less than 10 (Ramakrishnan, 2013). A variable indicated a linear function of another variable in the same model when the tolerance level is below 0.1 and VIF is above 10 and hence such a variable should be removed from the model. (Senaji, 2012).

3.9.2 Testing for normality

Regression analysis can be improved by having a normally distributed data (Ramakrishna, 2013). Assumption of normal distribution can be tested using plotting. If the plot gives a straight line and a positive slope then there is linearity (Omari, 2015). This should be done on both independent and dependent variables.

Normality tests are used to determine if a data set is well-modeled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed (Razali & Wah, 2011). There are two main methods of assessing normality: graphically and numerically. Tests for normality include; skewness and Kurtosis, Kolmogorov-Smirnov Test and the Shapiro-Wilk. Skewness and Kurtosis were used in this study. Skewness is a measure of the asymmetry of the probability distribution of a random variable about its mean. As a general rule of thumb: if skewness is less than -1 or greater than 1, the distribution is highly skewed, if skewness is between -1 and -0.5 or between 0.5 and 1, the distribution is moderately skewed and if skewness is between -0.5 and 0.5, the distribution is approximately symmetric. Kurtosis tells the height and sharpness of the central peak, relative to that of a standard bell curve.

3.9.3 Heteroscedasticity

Heteroscedasticity means unequal scatter. Specifically, heteroscedasticity is a systematic change in the spread of the residuals over the range of measured values. Heteroscedasticity is a problem because ordinary least squares (OLS) regression assumes that all residuals are drawn from a population that has a constant variance (homoscedasticity).

The presence of cross-sectional data raises the concern of presence of heteroscedasticity. The CLRM assumes that the error term is homoscedastic i.e. it has constant variance. If the error variance is not constant, then there is heteroscedasticity in the data. The study tested for heteroscedasticity and there was none.

3.10 Data Analysis and Presentation

Data analysis helped to bring order and meaning to the amount of information collected (Mugenda & Mugenda, 2003). Descriptive and inferential statistics were the most appropriate for this study in data analysis.

3.10.1 Descriptive Statistics

Descriptive statistics analysis were conducted to provide an overview of the sample through demographic details of the participating respondents including measure of central tendencies, standard deviation, range, variance among others. It was further conducted on statements regarding the study variables.

3. 10.2 Multiple Regression Analysis

Regression analysis helps determine the relationship between variables by finding out the connection between the dependent and independent variables. Multiple regression analysis was selected since the study involved more than one independent variables and therefore predicting the effect of the many independent variables on the dependent variable. Multiple regressions are used when the regression coefficients are less reliable

and when the degree of correlation between variables increases. Multiple regressions were used to determine the ability of independent variables to predict the dependent variable (Ramakrishnan, 2013). Statistical the model is represented as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e \dots \dots \dots \text{Equation 1}$$

Where;

Y= the dependent variable (Firm performance)

β = Regression constant (the value of Y when $X_1=X_2=X_3=X_4=X_5= 0$)

β_i is the coefficient for X_i (where $i= 1, 2, 3, 4, 5$)

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = Change in Y with respect to a unit change in X_1, X_2, X_3, X_4, X_5 respectively.

Independent variables are:

X_1 = Strategic technological capabilities

X_2 = Strategic managerial capabilities

X_3 = Strategic knowledge based capabilities

X_4 = Strategic coordination capabilities

X_5 = Strategic Marketing capabilities

β_i ($i= 0, 1, 2, 3, 4, 5$) are coefficients

e = Error term assumed to be normal in distribution with mean zero and variance σ^2

The inclusion of a random error, e, is important because other unspecified variables may also affect firm performance.

This study applied the following five hypotheses generated from the model:

H0₁: Strategic technological capabilities does not exert a significant positive influence on firm performance

Firm performance = f (Technological capabilities+ random error)

$$Y = \beta_0 + \beta_1 X_1 + e \dots \dots \dots \text{Equation 2}$$

H0₂: Strategic managerial capabilities do not have a significant positive influence on firm performance

Firm performance = f (Managerial capabilities+ random error)

$$Y = \beta_0 + \beta_2 X_2 + e \dots \dots \dots \text{Equation 3}$$

H0₃: Strategic knowledge based capabilities do not have a significant positive influence on firm performance

Firm performance = f (knowledge based capabilities+ random error)

$$Y = \beta_0 + \beta_3 X_3 + e \dots \dots \dots \text{Equation 4}$$

H0₄: Strategic coordination capabilities do not have a significant positive influence on firm performance

Firm performance = f (Coordination capabilities + random error)

$$Y = \beta_0 + \beta_4 X_4 + e \dots \dots \dots \text{Equation 5}$$

H0₅ Strategic Marketing capabilities do not have a significant positive influence on firm performance

Firm performance = f (Marketing capabilities + random error)

$$Y = \beta_0 + \beta_5 X_5 + e \dots \dots \dots \text{Equation 6}$$

3.10.3 Testing for Moderation Effect

Hierarchical regression and step wise regression were used to test for the moderating effect of managers cognition. Hierarchical regression is a way to show if variables of your interest explain a statistically significant amount of variance in your Dependent Variable (DV) after accounting for all other variables. Hierarchical regression was used to test for moderation in order to test how it affected the relationship between individual independent variable and the dependent variable. Stepwise regression is a method of fitting regression models in which the choice of predictive variables is carried out by an automatic procedure. In each step, a variable is considered for addition to or subtraction from the set of explanatory variables based on some pre-specified criterion. Stepwise regression was adopted in order to test how addition of a moderator affected the relationship between all the independent variables when one is either added or subtracted from the equation.

3.11 Measure of Variables

The researcher analyzed the five independent variables: knowledge management capabilities, marketing capabilities, managerial capabilities, technological capabilities and coordination capabilities and the dependent variable (performance of manufacturing firms) using the sub-variables as summarized in the table 3.2.

Table 3.2: Measurements of Variables

Variable type	Variable Name	Sub-Variables/indicators/measure/source	Measurement Tool	Questionnaire item
Independent variable	Technological capabilities	Business intelligence technologies Collaboration and distribution. Knowledge application technology (Terjesen Patel & Covin 2011; Obembe Ojo & Ilori, 2014; Su, Peng, Shen, & Xiao, 2013)	5 point likert scale. 3 sub variables and a composite of 8 items	Section B
Independent variable	Managerial capabilities	- Education (type and level) - Work experience - Social network ties (size, closeness, strength, diversity, centrality) - Relationships (with other managers, business contacts and government officials) (Parnel Long & Lester,2015; Dangol & Kos, 2014; Teeter Preston; Sandberg & Jorgen, 2016; Camison 2005; Hambrick, 2007)	5 point likert scale. -3 sub-variables and a composite of 8 items.	Section C
Independent variable	Marketing Capability	Brand management. Market sensing capabilities Customer relationship management capabilities (Mohammadian & Mohammadreza, 2012; Dubihlela, 2013; Murgor (2014); Day, 2011))	5 point likert scale. 3 sub-variables and a composite of 8 items.	Section D
Independent variable	Knowledge based Capabilities	Knowledge accumulation. Knowledge protection. Knowledge leverage. (Tseng & Lee, 2012; Chen & Fong, 2013; Gholami Asli, N., Nazari-Shirkouhi & Noruzy 2013; Protogerou Caloghirou & Lioukas, 2011)	5 point likert scale 3 sub-variables and a composite of 8 items.	Section E
Independent variable	Coordination Capability	Information sharing. Logistic synchronization. Incentive alignment. (Tiantian & Yezhuang, 2015; Tay & Tay, 2007; Udoyi, 2014; Protogerou Caloghirou & Lioukas, 2011)	5 point likert scale. 3 sub-variables and a composite of 8 items.	Section F
Dependent variable	Firm performance.	Adaptability. Growth of firm. Effectiveness. Efficiency (Theodosiou Kehagias & Katsikea 2012; Ruckert & walker, 2007; Ghalomi Asli, Nazari-Shirkouhi, & Noruzy, 2012; Vaccaro Parente & Veloso 2010).	5 point likert scale. 4 sub-variables and a composite of 8 items.	Section G

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter comprises of data analysis, findings and interpretation. Results are presented in tables and diagrams. The analysed data was arranged under themes that reflect the research objectives.

4.2 Response Rate

Table 4.1: Response Rate

Response	Frequency	Percentage
Returned	170	75.56%
Unreturned	55	24.44%
Total	225	100%

The number of questionnaires that were administered to manufacturing firms in Nairobi and its environments was 225. This was done through drop and pick. A total of 170 were properly filled and returned. This represented an overall successful response rate of 75.56% as shown on Table 4.1. This agrees with Babbie (2004) who asserted that return rates of 50% are acceptable to analyse and publish, 60% is good and 70% is very good. Based on these assertion 75.56% response rate is adequate for the study

4.3 Pilot Results

The number of questionnaires that were administered to the employees of manufacturing firms for pilot testing was 22. All the 22 questionnaires were properly filled and returned and this showed the questionnaires were reliable.

4.3.1 Reliability Results

Reliability analysis was done to evaluate survey constructs. Reliability analysis was evaluated using Cronbach's alpha. Sekaran and Bougie (2013) argued that coefficient greater than or equal to 0.7 is acceptable for basic research. Bagozzi (1994) explains that reliability can be seen from two sides: reliability (the extent of accuracy) and unreliability (the extent of inaccuracy). The most common reliability coefficient is Cronbach's alpha which estimates internal consistency by determining how all items on a test relate to all other items and to the total test- internal coherence of data. The reliability is expressed as a coefficient between 0 and 1.00. The higher the coefficient, the more reliable is the test.

Table 4.2: Reliability Results

Variable	Cronbach's Alpha	Number of items	Comment
Technological capability	0.815	9	Reliable
Managerial capability	0.781	10	Reliable
Marketing capability	0.824	10	Reliable
Knowledge Management capability	0.703	10	Reliable
Strategic Coordination capability	0.834	10	Reliable
Managers cognition	0.710	7	Reliable
Firm performance	0.769	10	Reliable

The findings on Table 4.2 indicated that technological capability, managerial capability, marketing capability, management capability, coordination capability, manager cognition and firm performance had reliability of 0.815, 0.718, 0.824, 0.703, 0.834, 0.710 and 0.769 respectively. All variables depicted that the value of Cronbach's Alpha were above value of 0.7 thus the study variables were reliable. This represented high level of reliability.

4.3.2 Validity Results

This study used content validity. Content validity refers to the content or meaning of every measurement item which must be established prior to any theoretical (Golafshani, 2013). Expert judgment can be used to enhance content validity through identifying weaknesses. In this study the questionnaire was given to lecturers in the field of strategic management. The results revealed that all the questions were valid (Appendix IV).

4.4 Demographic Information

Demographics are characteristics of a population such as race, ethnicity, gender, age, education, profession, occupation, income level, and marital status, are all typical examples of demographics that are used in surveys. Data for the demographic characteristics of the respondents was collected. This was in order to determine the validity of the responses given. The duration one had worked in the firms, their level of education and their position in the firm would help determine if the respondents had adequate information about the organizational capabilities and firm performance and therefore determine if the information was correct.

4.4.1 Duration of Employment

The respondents were asked to indicate the duration they had worked on the manufacturing firm. The results were presented in Table 4.3.

Table 4.3: Duration of Employment of Respondents

Duration of Employment	Percentage
Less than 2 years	9
2-4 years	20
5-8 years	43
Over 8 years	28
Total	100

The results in Table 4.3 revealed that 43% of the respondents had worked in the manufacturing firm for 4 – 8 years, while (28%) of the respondents had worked in the manufacturing firm for more than 8 years. The results also showed that 20% of the respondents had worked in the manufacturing firms for 2-4 years while only 9% had worked in the manufacturing firms for less than 2 years. This implies that most employees had worked in the manufacturing firms for a good number of years and therefore they had the relevant skills to improve the performance of the firm.

4.4.2 Level of Education

The respondents were asked to indicate their level of education. The results are shown in figure 4.1.

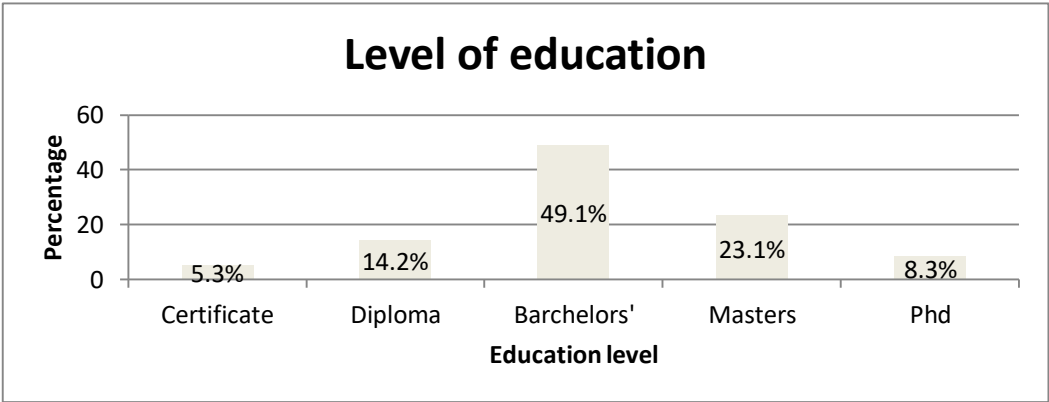


Figure 4.1: Level of Education

The result in Figure 4.1 revealed that majority of the respondents (49.1%) had a bachelor’s degree, (14.2%) were at post graduate with a master’s degree, (8.3%) had a PhD degree while (5.3%) of the respondent indicated that they had certificate qualifications. This implies that most employees in manufacturing firms are educated and thus has the capacity it boost the organizational performance.

4.4.3 Designation

The respondents were asked to indicate their designation in the organization. The results are shown in Table 4.4.

Table 4.4: Designation

	Frequency	Percent
Administration Manager	8	4.7
Administration Officer	10	5.9
Assist. Operations Manager	1	0.6
Assistant administrator	2	1.2
Assistant Human Resource Manager	21	12.4
Assistant Production Manager	2	1.2
Finance Manager	7	4.1
General Manager	8	4.7
Human Resource Manager	35	20.7
Operations Coordinator	6	3.6
Operations Director	1	0.6
Operations Supervisor	1	0.6
Operations Assistant	9	5.3
Operations Manager	28	16.6
Production Director	9	5.3
Production Manager	21	12.4
Total	169	100

The results in Table 4.4 revealed that 20.7% of the respondents were Human Resource Managers, (16.6%) of the respondents were operations managers while (12.4%) of the respondents were both production directors and assistant Human Resource Managers of the firms. The results also revealed that (5.9%) of the respondents were administration Officers, (5.3%) were Operations Assistants and Production Directors, while (4.7%) were General Managers and Administration Managers. The results further revealed that (4.1%) of the respondents were Finance Managers, (3.6%) were Operations Coordinators, (1.2%) were Assistant administrators and Assistant Production Managers

while (0.6%) of the respondents were Production Directors, Assistant Operations Managers and Operations Supervisors.

4.4.4 Age of the firms

The respondents were asked to indicate the age of their firms/organization. The results are shown in figure 4.2.

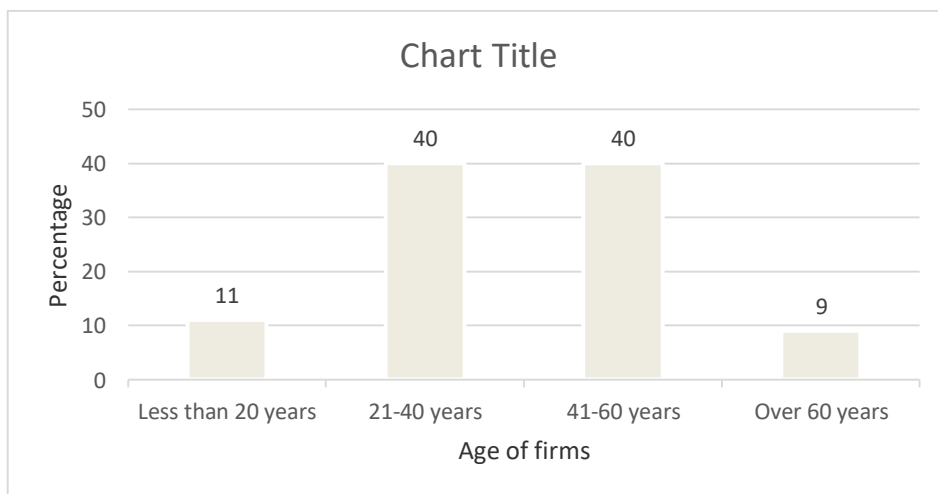


Figure 4.2: Age of the firms

The results in Figure 4.2 showed that majority of the manufacturing companies (40%) are between 21-40 years and 41-60 years, (11%) of the respondent indicated that their firm's age was below 20 years while (9%) of the respondent indicated that their firm's age was over 60 years.

4.4.5 Subsector of the Firm's Operation

The respondents were asked to indicate the subsector in which their firm operates. The results are shown in figure 4.3.

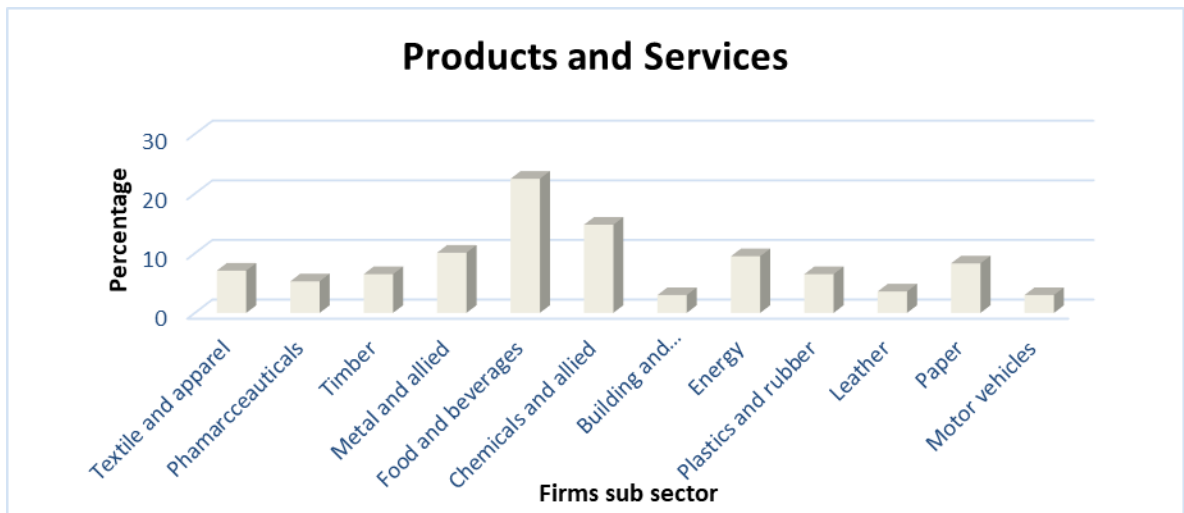


Figure 4.3: Subsector of the Firm's Operation

The result in Figure 4.3 revealed that 22.5% of the firms are in the food and beverages industry/subsector, (14.8%) in the chemicals and allied subsector while (10.1%) in the metal and allied subsector. The results also showed that (9.5%) of the firms in Kenya are in the energy industry/subsector, (8.3%) are based in the paper subsector while (7.1%) of the firms are in the textile and apparel subsector. The results, further revealed that (6.5%) in the plastics and rubber subsector and (6.5%) in the timber subsector. (5.3%) of the firms in Kenya are based in pharmaceuticals subsector, (3.6%) in leather subsector while (3%) of the firms in Kenya are based in the building and construction and motor vehicle subsector respectively.

4.4.6 Products and Services of the Firm

The respondents were asked to indicate the products and services of their firm. The results are shown in figure 4.4.

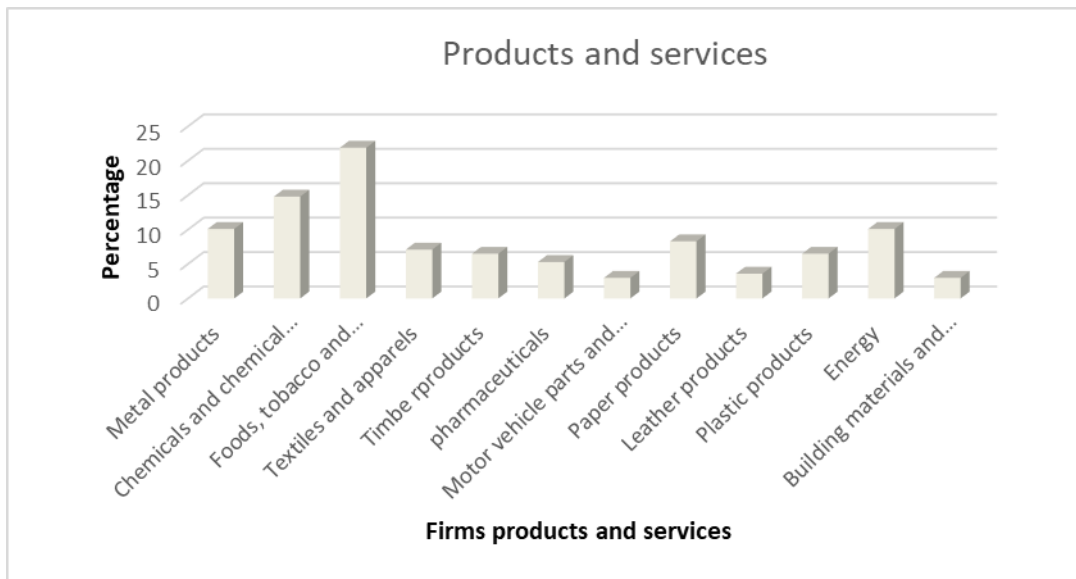


Figure 4.4: Products and Services of the Firm

The result in Figure 4.4 revealed that majority of the firms' products in Kenya (21.9%) are foods, tobacco and beverages, (14.8%) of the firms' products are chemicals and chemical products while (10.1%) of the firms' products are both metal products and energy. The results also revealed that (8.3%) of the firms in Kenya manufacture paper products, (7.1%) of the firms manufacture textiles and apparels, (6.5%) of the firms manufacture both timber products and plastic products, (5.3%) of the firms deal in pharmaceuticals, while (3.6%) of the firms produce leather products. In addition, the results showed that (3%) of the firms in Kenya manufacture motor vehicle parts and accessories as well as building materials and products.

4.4.7 Firm Ownership

The respondents were asked to indicate whether the firm is locally or foreign owned. The results are shown in Table 4.5.

Table 4.5: Firm Ownership

Firm Ownership	Percentage
Local	12
Foreign	16
Joint ownership	72
Total	100

The result in Table 4.5 revealed that majority of the firms in Kenya (72%) have joint ownership, (16%) of the firms have foreign ownership while (12%) of the firms in Kenya are locally owned.

4.4.8 Firm Diversification

The respondents were asked to indicate the state of business diversification of their firm. The results are shown in Table 4.6.

Table 4.6: Firm Diversification

Firm Diversification	Percentage
Diversified	82
Not diversified	18
Total	100

The result in Table 4.6 revealed that majority of the firms in Kenya (82%) are diversified in their production while (18%) of the firms in Kenya are not diversified in

their production. This implies that most firms employ diversification strategy in order to spread the risk associated with investments and to increase economies of scale by accessing a wider scope of market.

4.4.9 Firm Involvement

The respondents were asked to indicate the markets their firms were involved in. The results are shown in Table 4.7.

Table 4.7: Firm Involvement

Firm Status	Percentage
Local	12
Regional	16
Global	72
Total	100

The results shown in Table 4.7 revealed that majority of the manufacturing firms in Kenya (72%) are involved in global market, 16% are involved in regional markets while only 16% are local. This implies that most of the firms in Kenya, are going global markets because they want to access a global market that is free of trade barriers, regulations and restrictions. They also are in need of a wider scope of customer base which may improve their performance.

4.5 Descriptive statistics

Descriptive analysis for both the dependent, moderator and independent variables was conducted

4.5.1 Technological Capabilities and Firm Performance

The first objective was to determine the influence of technological capabilities on performance of manufacturing firms in Kenya. Results are presented in Table 4.8.

Table 4.8: Technological Capabilities

Statement	Mean	Std. Dev
Adoption of technology has cultivated organizational capabilities that enable our firm to outperform its competitors	3.91	1.16
Adoption of technology has led to the development of new services, new functions, formation of new alliances	3.96	1.08
Employees in our organization has high technological skills	3.88	1.17
Our organization is able to develop new products and processes without struggle.	3.97	1.15
Our organization is able to employ and develop a high technology for its product	3.88	1.20
Our organization is able to lead and maintain technological change in the industry	3.95	1.10
Our organization is able to use technology to efficiently produce more products than its competitors and at the lowest cost	3.82	1.17
Our organization uses distribution technology to increase its sales	3.83	1.15
Collaboration technologies enables the organization to outshine its competitors	3.80	1.17
Average	3.89	1.15

The results in Table 4.8 revealed the highest mean of the statements was 3.97 as observed in the statement our organization is able to develop new products and processes without struggle. However, the statement did not have the lowest standard deviation. Variability in responses was also observed with the lowest standard deviation being 1.08 as observed in the statement adoption of technology has led to the development of new services, new functions, formation of new alliances. The overall mean of the statements was 3.89 which indicated that most were in agreement to the statements and overall standard deviation of 1.15 indicated that the responses were varying.

The researcher also requested the respondents to indicate in their view how technological capabilities affect firm performance. The responses provided indicated that technological capabilities help in extending the market segment of a company. Also, some of the respondents indicated that technological capabilities is used in promoting dissemination of knowledge and information. Others further showed that technological capabilities help in strengthening the social ties with the external environment. When asked how their company adopt new technologies from the other competing firms, the responses provided included; building strong relationships with their management, arranging for trainings from their experts and focusing more on external social ties.

4.5.2 Managerial Capabilities and Firm Performance

The second objective was to determine the influence of managerial capabilities on performance of manufacturing firms in Kenya. Results are presented in Table 4.9.

Table 4.9: Managerial Capabilities and Firm Performance

Statement	Mean	Std. Dev
The management in our company have the rightful education for their positions and therefore have gained the needed skills	3.93	1.05
The management in our company have achieved high level of education which imparts them with the knowledge and skills required to run the company	4.01	1.04
During the appointment of managers in our company, their level of experience for managerial positions is put into consideration so that those with highest experience are considered.	4.02	1.02
The management in our company are able to form strong social network ties both with employees and other stakeholders and customers	3.95	1.09
The social network ties between the management and the company stakeholders and customers is closely knit	3.92	1.1
The management is able to interact freely with all stakeholders of different cadre, race, religion and gender	3.85	1.14
The management is able to relate with and reach a wide number of customers and therefore create a huge social network tie	3.99	1.07
Our company management is able to relate well with managers from other firms	4.02	1.02
Managers in our company are able to have good relationships with other business contact persons	4.05	1.06
Managers in our company are able to build good relations with government officials	3.93	1.08
Average	3.97	1.07

The results in Table 4.9 revealed the highest mean of the statements was 4.05 as observed in the statement managers in our company are able to have good relationships with other business contact persons. However, the statement did not have the lowest standard deviation. Variability in responses was also observed with the lowest standard deviation being 1.02. The overall mean of the statements was 3.97 which indicated that most were in agreement to the statements and overall standard deviation of 1.07 indicated that the responses were varying.

The researcher asked the respondents to state the criteria that is used in their company to appoint managers. The responses provided included; based on education level and experience. Also, some considered ones cognitive capabilities and ability to form social ties and relate well with other managers from other firms.

4.5.3 Marketing Capabilities and Firm Performance

The third objective was to determine the influence of marketing capabilities on performance of manufacturing firms in Kenya. Results are presented in Table 4.10.

Table 4.10: Marketing Capabilities and Firm Performance

Statement	Mean	Std. Dev
Ability to launch new products in the market successfully	4.12	0.97
Good at using information coming from the market	3.9	1.07
Good at creating, maintaining and enhancing relationships with customers	4.01	1.11
Good at ascertaining customers' current needs and what products they will need in the future	3.95	0.98
Good at sharing mutual commitment and goals with our strategic partners in the market	4.01	1.06
Top management regularly discusses competitors' strengths and strategies.	3.88	1.15
The management responds to competitive actions that threaten the firm.	3.86	1.17
There is adoption of marketing information that enables the firm to maintain relationship with customers.	3.92	1.07
Market research is carried out to ascertain the needs of customers.	4.01	1.04
There are flexible structures that make the firm to respond to management better than competitors.	3.99	1.12
Average	3.97	1.07

The results in Table 4.10 revealed the highest mean of the statements was 4.12 as observed in the statement ability to launch new products in the market successfully. The statement also had the lowest standard deviation. Variability in responses was also observed with the lowest standard deviation being 0.97. The overall mean of the

statements was 3.97 which indicated that most were in agreement to the statements and overall standard deviation of 1.07 indicated that the responses were varying. The researcher also sought to understand how the companies ensured that the marketing personnel had the right marketing capabilities. The responses provided included: expert training and in house trainings.

4.5.4 Knowledge Management Capabilities and Firm Performance

The fourth objective was to determine the influence of knowledge management capabilities on performance of manufacturing firms in Kenya. Results are presented in Table 4.11.

Table 4.11: Knowledge Management Capabilities and firm performance

Statement	Mean	Std. Dev
My organization gives orientation towards the development, transfer and protection of strategic knowledge.	3.92	1.17
My organization explicitly identifies strategic knowledge as a key element in our planning.	4.03	1.01
My organization acquires knowledge from external sources for developing new products	3.95	1.05
My organization uses knowledge to respond to consumer needs and preferences	3.99	1.08
In my organization knowledge is shared across units	3.86	1.11
Management encourages high levels of participation in capturing and transferring knowledge.	4.02	1.10
Management successfully integrates existing knowledge with new information and knowledge acquired	3.93	1.14
Management clearly supports the role of knowledge in the firms' success.	3.82	1.13
Employees successfully link existing knowledge with new insights	3.91	1.17
Management has effective ways of exploiting internal and external information and knowledge into processes, products or services	3.86	1.13
Averages	3.93	1.11

The results in Table 4.11 revealed the highest mean of the statements was 4.03 as observed in the statement my organization explicitly identifies strategic knowledge as a key element in our planning. The statement also had the lowest standard deviation of 1.01. The overall mean of the statements was 3.93 which indicated that most were in agreement to the statements and overall standard deviation of 1.11 indicated that the responses were varying. Further, according to the respondents, knowledge was provided to the employees through on the job trainings, mentorship programs, coaching, attending workshops and supporting them for further studies.

4.5.5 Co-ordination Capabilities and Firm Performance

The fifth objective was to determine the influence of coordination capabilities on performance of manufacturing firms in Kenya. Results are presented in Table 4.12.

Table 4.12: Co-ordination Capabilities and Firm Performance

Statement	Mean	Std. Dev
The various departments in my company share a great deal of information with each other	4.05	.95
Business functions are integrated in serving the needs of the target market.	3.96	1.12
My company's strategy emphasizes coordination of the various departments	3.90	1.15
All of our business functions such as marketing, sales, etc. are integrated in serving the needs of our target markets	3.96	1.10
In my company, resources are frequently shared by different departments	3.92	1.11
My company tightly coordinates the activities of all departments and adds customer value	3.98	1.13
Our top managers from across the company regularly visit our current and prospective customers	3.89	1.08
Employees collaborate with each other to achieve organizational goals.	4.04	1.08
Inter-departmental co-ordination has enhanced relationship with customers.	3.99	1.05
Inter-departmental co-ordination has made decisions that affect the relations with customer easy.	3.87	1.04
Average	3.96	1.09

The results in Table 4.12 revealed the highest mean of the statements was 4.05 as observed in the statement the various departments in my company share a great deal of information with each other. The statement also had the lowest standard deviation of 0.95. The overall mean of the statements was 3.96 which indicated that most were in agreement to the statements and overall standard deviation of 1.09 indicated that the responses were varying. Coordination in these companies was done through the use of effective communication channels and having different departments that performed different duties.

4.5.6 Managers Cognition

The fifth objective was to determine the moderating effect of manager's cognition on the relationship between organizational capabilities and performance of manufacturing firms in Kenya. Descriptive for manager's cognition were presented in Table 4.13.

Table 4.13: Managers Cognition

	Mean	Std. Dev
Our managers are able to control their emotions intelligently by perceiving things the way they should	4.01	1.06
Our managers have the ability to apply attention to solve the problem of information overload	3.92	1.10
Our managers are able to use their reasoning well to evaluate and construct logical arguments	3.96	1.03
Our managers possess problem solving skills that help them solve complex issue in the company	3.91	.97
Our managers possess the ability to make the right judgments and decisions for the company	4.02	1.01
Our managers possess excellent learning skills and are therefore able to respond to different environments perfectly	3.98	1.02
Our managers possess the ability to use rightful words in communicating ideas and feelings	3.92	1.00
Average	3.96	1.03

The results in Table 4.13 revealed the highest mean of the statements was 4.02 as observed in the statement our managers possess the ability to make the right judgments and decisions for the company. However, the statement did not have the lowest standard deviation. The lowest standard deviation was 0.97 as observed in the statement our managers possess problem solving skills that help them solve complex issue in the company. The overall mean of the statements was 3.96 which indicated that most were in agreement to the statements and overall standard deviation of 1.03 indicated that the responses were varying.

4.5.7 Performance of firms

Descriptive analysis for performance of manufacturing firms was conducted and results presented in Table 4.14.

Table 4.14: Performance of firms

	Mean	Std. Dev.
The firm has increased new products.	3.75	1.08
There is responsiveness to opportunities afforded by changes in the environment.	3.89	1.08
The firm employs best practices.	3.94	1.05
The firm adopts new knowledge and information.	4.04	1.01
Coordination of tasks has increased the effectiveness in work deliveries.	3.95	1.00
Firm alliances with foreign partners have led to growth of the firm.	3.93	1.00
The firm has more than doubled in size for the past two years.	3.79	1.11
A Day-to-day business operation has improved on firm efficiency.	3.83	1.07
Coordination of tasks has increased efficiency.	3.74	1.12
The firm's departmental coordination has reduced the operational cost.	3.93	1.08
Average	3.88	1.06

The results in Table 4.14 revealed the highest mean of the statements was 4.04 as observed in the statement the firm adopts new knowledge and information. However, the statement did not have the lowest standard deviation. The lowest standard deviation was 1.00 as observed in two statements. The overall mean of the statements was 3.88 which indicated that most were in agreement to the statements and overall standard deviation of 1.06 indicated that the responses were varying.

4.6 Test of Assumptions

Prior to running a regression model, pre-estimation and post estimation tests were conducted. The pre-estimation test to conduct in this case was the multicollinearity test while the post estimation test was normality test.

4.6.1 Test for Normality

The collected data was tested for normality before analysis. Normalization was done to be able to compare and analyze the relationship between strategic organizational capabilities and performance of manufacturing firms in Kenya. In this case, normalization helped to check whether data provided by the dependent variable was normally distributed (Hussey & Hussey, 1997). A histogram was plotted to show the results in Figure 4.5.

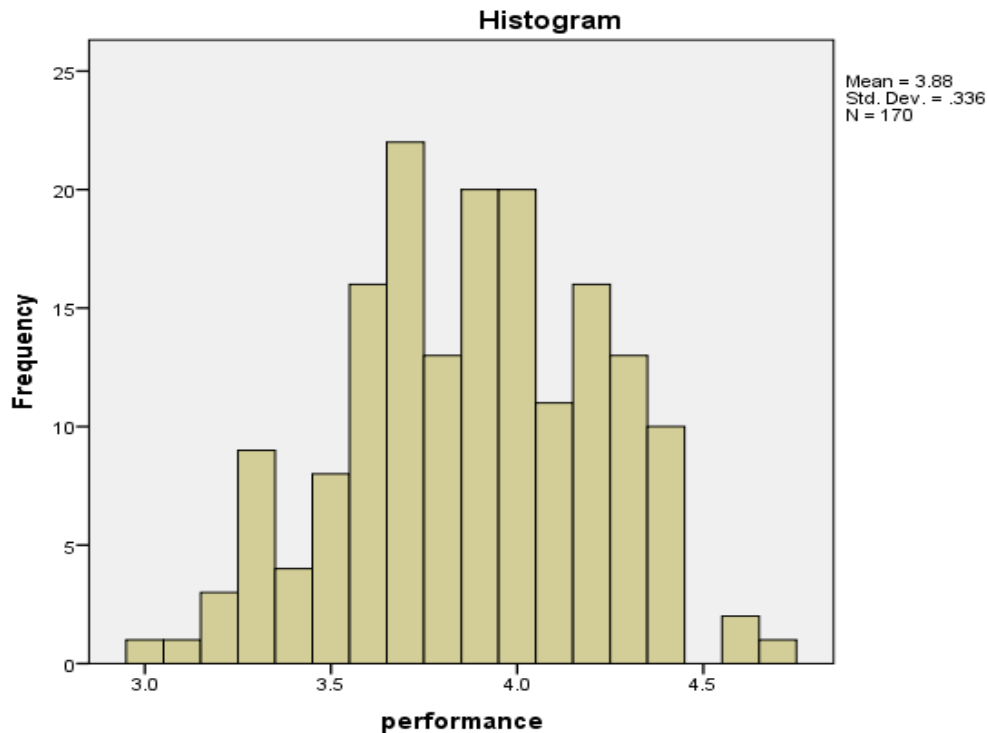


Figure 4.5: Normality Test

The test for normality was examined using the graphical method approach as shown in the Figure 4.5. The results in the figure indicate that the residuals are normally distributed.

4.6.2 Test of Linearity

Linearity test aims to determine the relationship between independent variables and the dependent variable is linear or not. The linearity test is a requirement in the correlation and linear regression analysis. Results are presented in Table 4.15.

Table 4.15: Test of linearity

		Sum of		Mean		
		Squares	df	Square	F	Sig.
<hr/>						
Between						
Groups	(Combined)	9.84	16	0.615	10.163	0.000
	Linearity	7.865	1	7.865	129.97	0.000
	Deviation					
	from Linearity	1.975	15	0.132	1.176	0.109
Within Groups		9.258	153	0.061		
Total		19.098	169			

Based on the ANOVA results above, $p > 0.005$ (0.109) and thus it can be concluded that there is a linear relationship between the dependent and independent variables.

4.6.3 Test for Multicollinearity/Collinearity

According to William, Burke, Beckman, Morgan, Daly and Litz (2013) multicollinearity refers to the presence of correlations between the predictor variables. In severe cases of perfect correlations between predictor variables, multicollinearity can imply that a unique least squares solution to a regression analysis cannot be computed (Field, 2009). Multicollinearity inflates the standard errors and confidence intervals leading to unstable estimates of the coefficients for individual predictors (Belsley, Kuh & Welsch, 1980). Results were presented in Table 4.16.

Table 4.16: Multicollinearity Results using VIF

	Tolerance	VIF
Technological Capabilities	0.665	1.503
Managerial capabilities	0.893	1.12
marketing capabilities	0.658	1.521
Knowledge management capabilities	0.600	1.668
coordination capabilities	0.672	1.488
Manager Cognition	0.674	1.484
Mean VIF		1.464

Multicollinearity was assessed in this study using the variance inflation factors (VIF). According to Field (2009) VIF values in excess of 10 is an indication of the presence of Multicollinearity. The results in Table 4.16 present variance inflation factors results and were established to be 1.464 which is less than 10 and thus according to Field (2009) indicates that there is no Multicollinearity.

4.6.4 Heteroscedasticity test

The error process may be Homoscedastic within cross-sectional units, but its variance may differ across units: a condition known as group wise Heteroscedasticity (Stevenson, 2004). The hettest command calculates Breuch Pagan for group wise Heteroscedasticity in the residuals. Heteroscedasticity test was run in order to test whether the error terms are correlated across observation in the data (Long & Ervin, 2000). The study used test Glejser to test for Heteroscedasticity. The null hypothesis is that the data does not suffer from Heteroscedasticity since the p-value is greater than the 5%. Results were presented in Table 4.17.

Table 4.17: Heteroscedasticity test

	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	0.224	0.145		1.538	0.126
Technology managerial capabilities	0.059	0.031	0.176	1.883	0.061
Marketing	-0.051	0.028	-0.147	-1.817	0.071
Management	0.006	0.031	0.018	0.19	0.849
Coordination	0.026	0.028	0.09	0.917	0.36
manager cognition	-0.036	0.03	-0.11	-1.188	0.237
	-0.027	0.027	-0.094	-1.009	0.315

a Dependent Variable: ABSut

The results in Table 4.17 indicated that the p value of all the variable were above 0.05. This implies that there is no heteroscedasticity problem.

4.7 Correlation Analysis

Correlation analysis was done to determine the relationship between the independent and dependent variable i.e to determine the relationship between the organizational capabilities and Performance of manufacturing firms. In perfect positive correlation, the two variables are positively related while a value of -1 represents a perfect negative correlation when the values of one variable increase, the value of the other variable decreases. Weaker negative or positive correlations is when Correlation coefficient (r) is between -1 and +1 while a value of 0 means the variables are perfectly independent. Results were presented in Table 4.18.

Table 4.18: Correlation Analysis

		performance	managerial capabilities	marketing capabilities	coordination capabilities
performance	Pearson Correlation	1.000			
	Sig. (2-tailed)				
managerial capabilities	Pearson Correlation	.551**	1.000		
	Sig. (2-tailed)	0.000			
marketing capabilities	Pearson Correlation	.496**	.161*	1.000	
	Sig. (2-tailed)	0.000	0.036		
coordination capabilities	Pearson Correlation	.586**	.160*	.361**	1.000
	Sig. (2-tailed)	0.000	0.038	0.000	

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

The table 4.18 indicated that managerial capabilities and firm's performance are positively and significantly related ($r=0.551$, $p=0.000$). The findings were consistent with that of Yin (2012) whose findings revealed that there was statistically insignificant positive relationship between managerial capability and financial performance. The table further indicated that marketing capabilities and firm's performance are positively and significantly related ($r=0.496$, $p=0.000$). The findings agreed with that of Udoyi (2014) who found out that there was a significant positive relationship between bank performance and marketing capabilities. Furthermore, the results revealed that coordination capabilities and firm's performance are positively and significantly related ($r=0.586$, $p=0.000$). The results were in agreement with that of Rico, Hinsz, Davison, &

Salas (2017) who found that coordination capabilities have a positive effect performance of systems.

4.8 Regression Analysis

Regression analysis was done to determine the influence of independent variables on the dependent variable.

4.8.1 Influence of Technological Capabilities on performance

Regression analysis was done to determine the influence of strategic technological capabilities on the performance of manufacturing firms. Results were presented in Table 4.19.

Table 4.19: Model of Fitness for Technological Capabilities

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.642	0.412	0.408	0.2593

The results in table 4.19 presented the fitness of model of regression model used in explaining the study phenomena. Technological capabilities were found explain 41.2% of the firm performance. The results meant that the model applied to link the relationship. This also implies that 58.8% of the variation in the dependent variable is attributed to other variables not captured in the model. The results of model of fitness are consistent with previous findings by a number of researchers (Figueiredo, 2018; Panda & Ramanathan, 2016; Prašnikar, Lisjak, Buhovac, & Štemberger, 2018) who asserted that technological capabilities is a good component of organizational capabilities and that it is a very notable contributor of firm performance.

Table 4.20: ANOVA for Technological Capabilities

	Sum of Squares	df	Mean Square	F	Sig.
Regression	7.865	1	7.865	116.941	0.000
Residual	11.232	168	0.067		
Total	19.098	169			

Table 4.20 provided the results on the analysis of the variance (ANOVA). The results indicated that the model was statistically significant. This was supported by an F statistic of 116.941 and the reported p value (0.000) which was less than the conventional probability of 0.05 significance level. The results implied that a technological capability is a good predictor of firm's performance. These findings agreed with the findings of Reichert and Zawislak (2014) who confirmed that technological capabilities had a positive relationship with performance of Brazilian firms.

Table 4.21: Regression of coefficients for Technological Capabilities

	B	Std. Error	T	Sig.
(Constant)	1.538	0.217	7.07	0.000
Strategic technological capabilities	0.613	0.057	10.814	0.000

Regression of coefficients results in table 4.21 revealed that technological capabilities and organization performance are positively and significantly related ($\beta=0.613$, $p=0.000$). This implies that a unit increase in technological capabilities would lead to a rise in organizational performance by 0.613 units. The regression of coefficient results are consistent with the findings of Reichert and Zawislak (2014) and Tsai (2014) who found that technological capabilities has significantly positive impact on organizational performance.

The results therefore indicated that there is a positive and significant relationship between technological capabilities and firm performance. These findings concur with various other findings by previous scholars who investigated the effect of technological capabilities on performance in different firms and found a positive and significant relationship between technological capabilities and firms performance (Chantanaphant, Nabi & Dornberger, 2013; Otiso, 2017; Reichert & Zawislak, 2014; Tsai, 2014; Yam, Lo, Tang, & Lau, 2015). The study found that firms that had adopted new technologies had been able to outperform their competitors. The adoption of new technologies also led the firms to the development of new services, new functions, and formation of new alliances.

4.8.2 Influence of Managerial Capabilities on performance

Regression analysis was done to determine the influence of managerial capabilities on the performance of manufacturing firms. Results were presented in Table 4.22.

Table 4.22: Model of Fitness for Managerial Capabilities

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.552	0.305	0.301	0.282

The results in table 4.22 presented the fitness of model of regression model used in explaining the study phenomena. Managerial capabilities were found to explain 30.5% of the firm performance. The results meant that the model applied to link the relationship. This also implies that 69.5% of the variation in the dependent variable is attributed to other variables not captured in the model.

Table 4.23: ANOVA for Managerial Capabilities

	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.82	1	5.82	73.208	0.000
Residual	13.277	168	0.08		
Total	19.098	169			

Table 4.23 provided the results on the analysis of the variance (ANOVA). The results indicated that the model was statistically significant. Further, the results implied that managerial capabilities are a good predictor of firm's performance. This was supported by an F statistic of 73.208 and the reported p value (0.000) which was less than the conventional probability of 0.05 significance level.

Table 4.24: Regression of coefficients for Managerial Capabilities

	B	Std. Error	T	Sig.
(Constant)	1.773	0.247	7.178	0.000
Strategic managerial capabilities	0.548	0.064	8.556	0.000

Regression of coefficients results in table 4.24 revealed that managerial capabilities and organization performance are positively and significantly related ($\beta = 0.548$, $p = 0.000$). This implies that a unit rise in managerial capabilities would result to an increase in organizational performance by 0.548 units.

The relationship between managerial capabilities and firm performance was found to be positive and significant. The study found that manufacturing firms that had a management that had skills in developing clear operating procedures were able to run business successfully. In addition, management that had the ability to allocate resources (e.g. financial, employees) to achieve the firm's goals were able to outdo their

competitors. Moreover, management that had the ability to forecast and plan for the success of the business performed.

These findings were consistent with the findings of Jolly, Isa, Othman, and Ahmdon (2016) who found that managerial capability has a positive a positive relationship with performance of Malaysian firms. The results also agreed with those of Kwalanda, Mukanzi and Onyango (2017) who found that managerial capabilities such as presentation capabilities and interpersonal capabilities were a good predictor of performance and positively and significantly related with the performance of sugar manufacturing industry. Sreckovic (2015 also found that interpersonal capabilities of managers is important predictor of performance. On the contrary, results were inconsistent with those of Lo (2015) who found that managerial capabilities have no effect on firm performance.

4.8.3 Influence of Marketing Capabilities on performance

Regression analysis was done to determine the influence of marketing capabilities on the performance of manufacturing firms. Results were presented in Table 4.25.

Table 4.25: Model of Fitness for Strategic Marketing Capabilities

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.496a	0.246	0.241	0.2937

The results in table 4.25 presented the fitness of model of regression model used in explaining the study phenomena. Marketing capabilities were found to explain 24.6% of the firm performance. The results meant that the model applied to link the relationship. The results meant that the model applied to link the relationship. This also implies that 75.4% of the variation in the dependent variable is attributed to other variables not captured in the model.

Table 4.26: ANOVA for Marketing Capabilities

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	4.697	1	4.697	54.469	0.000
Residual	14.401	168	0.086		
Total	19.098	169			

Table 4.26 provided the results on the analysis of the variance (ANOVA). The results indicated that the model was statistically significant. This was supported by an F statistic of 54.469 and the reported p value (0.000) which was less than the conventional probability of 0.05 significance level. Further, the results implied that marketing capabilities are a good predictor of firm's performance.

Table 4.27: Regression of coefficients for Marketing Capabilities

	B	Std. Error	T	Sig.
(Constant)	2.101	0.242	8.684	0.000
Marketing capabilities	0.463	0.063	7.38	0.000

Regression of coefficients results in table 4.27 revealed that managerial capabilities and organization performance are positively and significantly related ($\beta = 0.463$, $p = 0.000$). This implies that a unit increase in marketing capabilities would lead to increase in performance by 0.463.

The study results indicated that marketing capabilities have a positive and significant relationship with firm performance. The study found that organization that gives orientation towards the development, transfer and protection of strategic knowledge are able to improve their performance. In addition, manufacturing firm's management that

clearly supports the role of knowledge in the firms' success outdo their performance. More so, employees that successfully link existing knowledge with new insights.

These findings agreed with that of Udoyi (2014) who found out that there was a significant positive relationship between performance and marketing capabilities. The findings are also consistent with those of Ejrami, Salehi and Ahmadian (2016) who found that marketing capability has positive impact on performance. Further, the results concur with those of Salisu, Abu-Bakr and Rani (2017) who asserted that marketing capability has positive impact on performance of firms in Nigeria. Hosseini (2016) also found that marketing capabilities has a positive effect on performance.

4.8.4 Influence of Knowledge management on performance

Regression analysis was done to determine the influence of knowledge management capabilities on the performance of manufacturing firms. Results were presented in Table 4.28.

Table 4.28: Model of Fitness for Strategic Knowledge Management Capabilities

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.536a	0.287	0.283	0.2856

The results in table 4.28 presented the fitness of model of regression model used in explaining the study phenomena. Knowledge management capabilities were found to explain 28.7% of the firm performance. The results meant that the model applied to link the relationship. This also implies that 71.3% of the variation in the dependent variable is attributed to other variables not captured in the model.

Table 4.29: ANOVA for Knowledge Management Capabilities

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	5.479	1	5.479	67.19	0.000
Residual	13.618	168	0.082		
Total	19.098	169			

Table 4.29 provided the results on the analysis of the variance (ANOVA). The results indicated that the model was statistically significant. This was supported by an F statistic of 67.19 and the reported p value (0.000) which was less than the conventional probability of 0.05 significance level. Further, the results implied that management capabilities are a good predictor of firm's performance.

Table 4.30: Regression of coefficients for Knowledge Management Capabilities

	B	Std. Error	t	Sig.
(Constant)	2.205	0.205	10.738	0.000
Strategic Knowledge management capabilities	0.436	0.053	8.197	0.000

Regression of coefficients results in table 4.30 revealed that knowledge management capabilities and organization performance are positively and significantly related ($\beta = 0.436$, $p = 0.000$). This implied that a unit increase in knowledge management capabilities would lead to an increase in performance by 0.436 units.

The results indicated that knowledge management capabilities have positive and significant relationship with performance of manufacturing firms in Kenya. The results revealed that organization that had the ability to launch new products in the market successfully were able to outshine their competitors. Furthermore, organizations that were good at creating, maintaining and enhancing relationships with customers had

better performance. In addition, organizations that were good at sharing mutual commitment and goals with strategic partners in the market performed better than their competitors. The study further found that management that responds to competitive actions that threaten the firm perform better than their competitors.

The findings were in agreement with that of Musuva, Ogutu, Awino and Yabs (2013) who showed that knowledge capabilities have a positive influence on the performance of a firm. Further, findings agreed with Tseng and Lee (2014) who concurred that knowledge management capabilities increased performance of firms. Furthermore, results agreed with those of Mohammad, Mohammad, Ali and Ali (2012) who found that the aspects of knowledge management; knowledge acquisition, knowledge application, technology infrastructure, organizational culture, and organizational structure positively and significantly affect performance. On the other hand, results disagreed with those of Bharadwaj, Chauhan and Raman (2015) who asserted that knowledge management capabilities negatively impacted on the performance of Indian firms.

4.8.5 Influence of Coordination Capabilities on Performance

Regression analysis was done to determine the influence of coordination capabilities on the performance of manufacturing firms. Results were presented in Table 4.31

Table 4.31: Model of Fitness for Strategic Coordination Capabilities

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.586	0.343	0.339	0.274

The results in table 4.31 presented the fitness of model of regression model used in explaining the study phenomena. Coordination capabilities were found to explain 34.3% of the firm performance. The results meant that the model applied to link the relationship. This also implies that 65.7% of the variation in the dependent variable is attributed to other variables not captured in the model.

Table 4.32: ANOVA for Coordination Capabilities

	Sum of Squares	df	Mean Square	F	Sig.
Regression	6.557	1	6.557	87.323	0.000
Residual	12.54	168	0.075		
Total	19.098	169			

Table 4.32 provided the results on the analysis of the variance (ANOVA). The results indicated that the model was statistically significant. Further, the results implied that coordination capabilities are a good predictor of firm's performance. This was supported by an F statistic of 87.323 and the reported p value (0.000) which was less than the conventional probability of 0.05 significance level.

Table 4.33: Regression of coefficients for Coordination Capabilities

	B	Std. Error		Sig.
(Constant)	1.797	0.224	8.027	0.000
Strategic coordination capabilities	0.538	0.058	9.345	0.000

Regression of coefficients results in table 4.33 revealed that coordination capabilities and organization performance are positively and significantly related ($\beta = 0.436$, $p=0.000$). This implied that a unit increase in coordination capabilities would lead to an increase in performance by 0.538 units.

Hypothesis Testing for Coordination Capabilities

The hypothesis was tested by using multiple linear regression (Table 4.33). The acceptance/rejection criteria was that, if the p value is greater than 0.05, the H_{01} is not rejected but if it's less than 0.05, the H_{01} fails to be rejected.

The null hypothesis was that coordination capabilities exert no significant influence on the performance of manufacturing firms in Kenya. Results in Table 4.33 show that the p-value was $0.000 < 0.05$. This indicated that the null hypothesis was rejected hence there is a significant relationship coordination capabilities and performance of manufacturing firms in Kenya.

The results indicated that coordination capabilities and performance of firms are positively and significantly related. The study found that an organization that gives orientation towards the development, transfer and protection of strategic knowledge perform better than their competitors. Furthermore, organizations where knowledge is shared across units perform better than their competitors. In addition, management that successfully integrates existing knowledge with new information and knowledge acquired perform well. Additionally, management that clearly supports the role of knowledge in the firms' success boosts their performance. Finally, manufacturing firms that has management that have effective ways of exploiting internal and external information and knowledge into processes, products or services outdo their competitors.

These findings concur with the findings of Rehman, and Saeed (2015) who asserted that coordination capabilities help the firm to integrate all the tacit knowledge as well as codified knowledge in order to produce and deliver those products that are cost effective and get more information and data about the needs and demands of the customers and therefore positively impacts on firm performance. The results are inconsistent with those of Tai and Lin (2018) who found that firm performance is not directly linked to coordination capabilities.

4.8.6 Regression before Moderation

Regression analysis was done to determine the influence of organizational capabilities on the performance of manufacturing firms. Results were presented in Table 4.34.

Table 4.34: Model of Fitness before Moderation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.843a	0.71	0.701	0.1842

The results in Table 4.34 presented the fitness of model of regression model used in explaining the study phenomena. Technological capabilities, managerial capabilities, marketing capabilities, knowledge management capabilities and coordination capabilities were found to explain 71.0% of the firm performance. The results meant that the model applied to link the relationship of the variables was satisfactory.

Table 4.35: ANOVA before Moderation

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	13.558	5	2.712	80.265	0.000
Residual	5.54	164	0.034		
Total	19.098	169			

Table 4.35 provided the results on the analysis of the variance (ANOVA). The results indicated that the overall model was statistically significant. This was supported by an F statistic of 80.265 and the reported p value (0.000) which was less than the conventional probability of 0.05 significance level. Further, the results implied that the independent variables are good predictors of performance.

Table 4.36: Regression of Coefficients before Moderation

	B	Std. Error	t	Sig.
(Constant)	-0.583	0.228	-2.561	0.011
Strategic technological capabilities	0.276	0.049	5.606	0.000
Strategic managerial capabilities	0.379	0.044	8.664	0.000
Strategic marketing capabilities	0.109	0.048	2.265	0.025
Strategic Knowledge management capabilities	0.138	0.043	3.191	0.002
Strategic coordination capabilities	0.259	0.046	5.643	0.000

Regression of coefficients results in table 4.36 revealed that technological capabilities and organizational performance are positively and significant related ($\beta = 0.276$, $p=0.000$). This implies that a unit increase in technological capabilities would lead to an increase in performance by 0.276 units. The table further indicates that managerial capabilities and organizational performance are positively and significant related ($\beta = 0.379$, $p=0.000$). This implies that a unit increase in managerial capabilities would lead to an increase in performance by 0.39 units. It was further established that marketing capabilities and organizational performance were positively and significantly related ($\beta = 0.109$, $p=0.025$). This implies that a unit increase in marketing capabilities would lead to an increase in performance by 0.109 units. The table further indicated that knowledge management capabilities and organizational performance were positively and significantly related ($\beta = 0.138$, $p=0.002$). This implies that a unit increase in knowledge management capabilities would lead to an increase in performance by 0.138 units. Additionally, the results revealed that coordination capabilities and organization performance were also positively and significantly related ($\beta = 0.259$, $p=0.000$). This implies that a unit increase in coordination capabilities would lead to an increase in performance by 0.259 units.

Hypothesis Testing for Technological Capabilities

The hypothesis was tested by using multiple linear regression (table 4.36). The acceptance/rejection criteria was that, if the p value is greater than 0.05, the H_{01} is not rejected but if it's less than 0.05, the H_{01} fails to be rejected.

The null hypothesis was that technological capabilities exert no significant influence on the performance of manufacturing firms in Kenya. Results in Table 4.36 show that the p-value was $0.000 < 0.05$. This indicated that the null hypothesis was rejected hence there is a significant relationship between technological capabilities and performance of manufacturing firms in Kenya.

Hypothesis Testing for Managerial Capabilities

The hypothesis was tested by using multiple linear regression (table 4.36). The acceptance/rejection criteria was that, if the p value is greater than 0.05, the H_{01} is not rejected but if it's less than 0.05, the H_{01} fails to be rejected.

The null hypothesis was that managerial capabilities exert no significant influence on the performance of manufacturing firms in Kenya. Results in Table 4.36 show that the p-value was $0.000 < 0.05$. This indicated that the null hypothesis was rejected hence there is a significant relationship between managerial capabilities and performance of manufacturing firms in Kenya.

Hypothesis Testing for Marketing Capabilities

The hypothesis was tested by using multiple linear regression (table 4.36). The acceptance/rejection criteria was that, if the p value is greater than 0.05, the H_{01} is not rejected but if it's less than 0.05, the H_{01} fails to be rejected.

The null hypothesis was that marketing capabilities exert no significant influence on the performance of manufacturing firms in Kenya. Results in Table 4.36 show that the p-value was $0.025 < 0.05$. This indicated that the null hypothesis was rejected hence there is a significant relationship between marketing capabilities and performance of manufacturing firms in Kenya.

Hypothesis Testing for Knowledge Management Capabilities

The hypothesis was tested by using multiple linear regression (table 4.36). The acceptance/rejection criteria was that, if the p value is greater than 0.05, the H_{01} is not rejected but if it's less than 0.05, the H_{01} fails to be rejected.

The null hypothesis was that knowledge management capabilities exert no significant influence on the performance of manufacturing firms in Kenya. Results in Table 4.36 show that the p-value was $0.002 < 0.05$. This indicated that the null hypothesis was rejected hence there is a significant relationship knowledge management capabilities and performance of manufacturing firms in Kenya.

Hypothesis Testing for Coordination Capabilities

The hypothesis was tested by using multiple linear regression (Table 4.36). The acceptance/rejection criteria was that, if the p value is greater than 0.05, the H_{01} is not rejected but if it's less than 0.05, the H_{01} fails to be rejected.

The null hypothesis was that coordination capabilities exert no significant influence on the performance of manufacturing firms in Kenya. Results in Table 4.36 show that the p-value was $0.000 < 0.05$. This indicated that the null hypothesis was rejected hence there is a significant relationship coordination capabilities and performance of manufacturing firms in Kenya.

4.9 Moderation Regression

The sixth objective of the study was to determine the moderating effect of managers' cognition on the relationship between organizational capability and performance of manufacturing firms in Kenya..

4.9.1 Hierarchical regression

Hierarchical regression is a way to show if variables of your interest explain a statistically significant amount of variance in your Dependent Variable (DV) after accounting for all other variables. This is a framework for model comparison rather than a statistical method. Hierarchical regression was important test if the introduction of a moderating variable manager's cognition the independent variables would still explain a statistically significant amount of variance of firm performance. Therefore, this was done by adding the variable manager's cognition to the previous model and checked for changes in the R^2 to see if the introduction of the moderating variable changed the R^2 and in what direction. In this case, the study would check the influence of the moderating variable on the relationship between organizational culture and firm performance. Hierarchical regression was used to test for moderation in order to test how it affected the relationship between individual independent variable and the dependent variable.

Table 4.37: Model of Fitness after Moderation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.843 ^a	0.71	0.701	0.1842
2	.848 ^b	0.718	0.708	0.1822
3	.863 ^c	0.744	0.728	0.1759

All the independent variables were jointly found to have a positive and significant relationship with performance ($p=0.1842$). The R^2 of 0.843 was obtained in this model. This showed that model 1 could explain 84.3 per cent of variance in the dependent variable (performance) with an incremental variance.

The findings from table 4.37 also showed that when managers cognition was added as a moderator, the results (model 2) obtained indicated that both independent variables and the moderating variable were insignificantly and jointly related to organizational performance ($p>0.05$). The R^2 was 0.848.

Finally, to investigate how the manager's cognition moderates the relationship between strategic organizational capability and performance, the interaction terms of the independent variables (specific variables) and the moderator (strategic cognition) were entered in the regression model to obtain model 3. Managers cognition was found not to have a moderating effect on the relationship between organizational capability and performance ($p=0.1759$). The R^2 was 0.863

Table 4.38: Regression of Coefficients

		B	Std. Error	t	Sig.
1	(Constant)	-0.583	0.228	-2.561	0.011
	Average Technology	0.276	0.049	5.606	0.000
	Average managerial capabilities	0.379	0.044	8.664	0.000
	Average marketing	0.109	0.048	2.265	0.025
	Average management	0.138	0.043	3.191	0.002
	Average coordination	0.259	0.046	5.643	0.000
2	(Constant)	-0.619	0.226	-2.74	0.007
	Average Technology	0.27	0.049	5.526	0.000
	Average managerial capabilities	0.365	0.044	8.32	0.000
	Average marketing	0.094	0.048	1.957	0.052
	Average management	0.118	0.044	2.687	0.008
	Average coordination	0.234	0.047	5.019	0.000
	Average manager cognition	0.089	0.041	2.156	0.033
3	(Constant)	-1.007	1.949	-0.517	0.606
	Average Technology	-0.179	0.418	-0.428	0.669
	Average managerial capabilities	-0.527	0.402	-1.312	0.191
	Average marketing	0.526	0.384	1.372	0.172
	Average management	0.087	0.044	1.965	0.051
	Average coordination	1.263	0.354	3.573	0.000
	Average manager cognition	0.216	0.521	0.415	0.679
	Technology*cognition	0.116	0.11	1.057	0.292
	Managerial*cognition	-0.109	0.095	-1.144	0.255
	marketing*cognition	0.236	0.106	2.237	0.027
	Knowledge*cognition	-0.273	0.092	-2.967	0.003
	coordination cognition	0.087	0.044	1.965	0.151

Model 1 in the Table 4.38 revealed that the relationship between the independent and the dependent variable was significant. In addition, in model 2 the results revealed that all the independent variable were significant in presence of the moderator (manager's cognition).

Similarly, model 3 showed that only two independent variables which were managerial capabilities and coordination capabilities which were significant in presence of the interaction terms

Therefore, the model before moderation was as follows:

Model one: Influence of strategic organizational capabilities on performance of manufacturing firms

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e \dots \dots \dots \text{Equation 7}$$

Where;

Y= the dependent variable (Firm performance)

β = Regression constant (the value of Y when $X_1 = X_2 = X_3 = X_4 = X_5 = 0$)

β_i is the coefficient for X_i (where $i = 1, 2, 3, 4,$)

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = Change in Y with respect to a unit change in X_1, X_2, X_3, X_4, X_5 respectively.

e-standard error term

Therefore, the resultant model is

$$Y = -0.583 + 0.276X_1 + 0.379X_2 + 0.109X_3 + 0.138X_4 + 0.259X_5 + 0.228 \dots \dots \dots \text{Equation 8}$$

Independent variables are:

X_1 = Strategic technological capabilities

X_2 = Strategic managerial capabilities

X_3 = Strategic knowledge based capabilities

X_4 = Strategic coordination capabilities

X_5 = Strategic Marketing capabilities

The model after moderation becomes

Model two: Moderating effect of manger's cognition on the influence of strategic organizational capabilities on performance of manufacturing firms

$$Y = \beta_0 + \beta_1 X_1 M + \beta_2 X_2 M + \beta_3 X_3 M + \beta_4 X_4 M + \beta_5 X_5 M + e \dots \dots \dots \text{Equation 9}$$

Where;

Y= the dependent variable (Firm performance)

β_0 = Regression constant (the value of Y when $X_1 = X_2 = X_3 = X_4 = X_5 = 0$)

β_i is the coefficient for X_i (where $i = 1, 2, 3, 4, 5$)

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = Change in Y with respect to a unit change in X_1, X_2, X_3, X_4, X_5 respectively.

e-standard error

M=Moderating variable (manager's cognition)

The resultant model is

$$Y = -0.619 + 0.27X_1 + 0.089 + 0.365X_2 + 0.089 + 0.094X_3 + 0.089 + 0.118X_4 + 0.089 + 0.234X_5 + 0.089 + e \dots \dots \dots \text{Equation 10}$$

Independent variables are:

X_1 = Strategic technological capabilities

X_2 = Strategic managerial capabilities

X_3 = Strategic knowledge based capabilities

X_4 = Strategic coordination capabilities

X_5 = Strategic Marketing capabilities

Model 3: After Interaction

The model after interaction is:

$$Y = 0.236 X_3 X_6 - 0.273 X_4 X_6 \dots \dots \dots \text{Equation 11}$$

Where X_2 is marketing capabilities

X_4 coordination capabilities

X_6 Managers cognition

This section looks at the moderating role by manager's cognition. Graphs were drawn to determine the moderating role of manager's cognition. Models were also used to confirm the results of the graphs. Managers cognition were used as the dichotomies on each organization capability variable i.e. technological capabilities (X_1), managerial capability (X_2), marketing capability (X_3), knowledge management capability (X_4) and coordination capabilities on performance. $X_1 * Z$, $X_2 * Z$, $X_3 * Z$, $X_4 * Z$ and $X_5 * Z$

interaction was created and hierarchical regression model fitted. For examining the hypothesis, managerial cognition constituted of Z1. Graphs give a rough idea of the moderation effect between variables. If the lines on the graph are parallel, there is no moderation effect. If the lines on the graph cross the moderation is likely to be significant. The actual results can be confirmed using the hierarchical regression model.

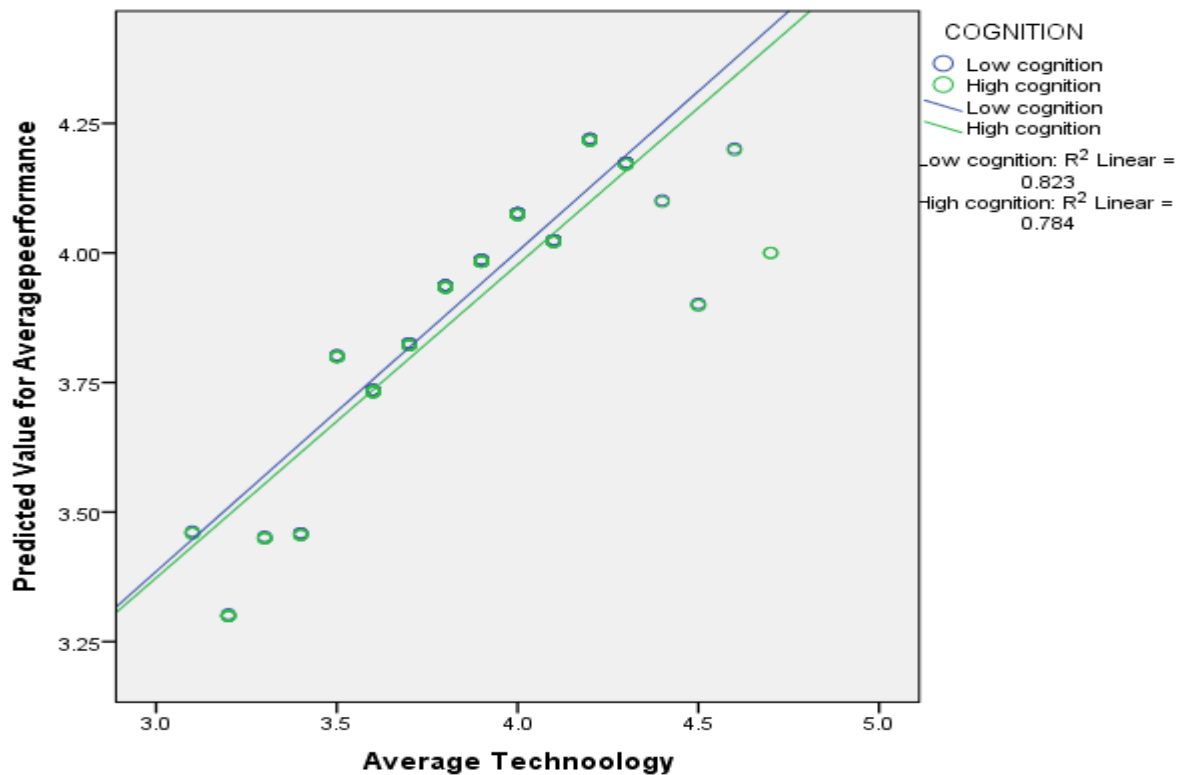


Figure 4.6: Interaction Effect (Technological capability)

As shown in figure 4.6, technological capabilities and manager’s cognition the curves are parallel to one another. This is an indicator that there is likely to be no moderation effect by manager’s cognition on technological capabilities and performance. This implies that manager’s cognition does not moderates the relationship between technological capabilities and performance. This is a clear indication that technological capabilities does not require manager’s cognition for them to be effective. Chen and

Wang (2009) who argued that director's cognition does not play any effect on the relationship between CRS strategy and firm performance.

Figure 4.7 shows two way interaction of the moderator (manager's cognition). The y axis is the dependent variable (performance) while the x axis is the independent variables (managerial capabilities).

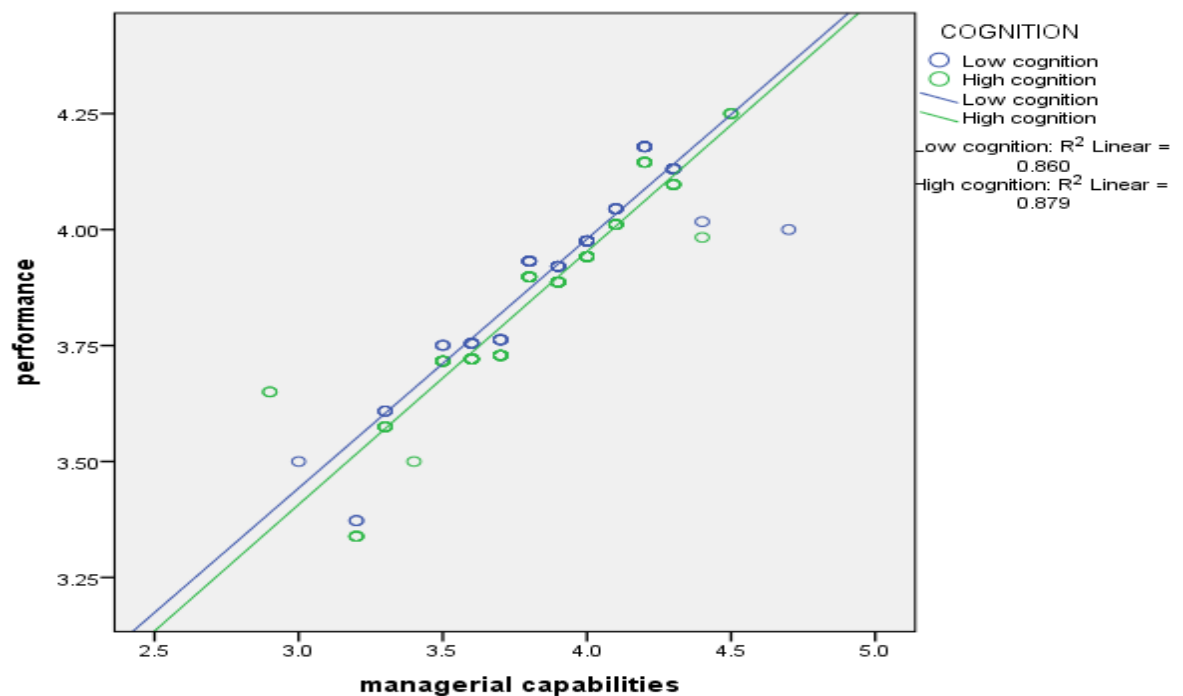


Figure 4.7: Interaction Effect (Managerial capability)

As shown in figure 4.7, managerial capabilities and manager's cognition the curves are parallel to one another. This is an indicator that there is likely to be no moderation effect by manager's cognition on managerial capabilities and performance. This implies that manager's cognition does not moderates the relationship between managerial capabilities and performance. This is a clear indication that a managerial capability does not require manager's cognition for them to be effective. These findings were

inconsistent with that of Gao (2009) that managerial CSR cognition is have a significant mediating effect on the relationship between managerial and corporate performance.

Figure 4.8 shows two way interaction of the moderator (manager’s cognition). The y axis is the dependent variable (performance) while the x axis is the independent variables (marketing capabilities).

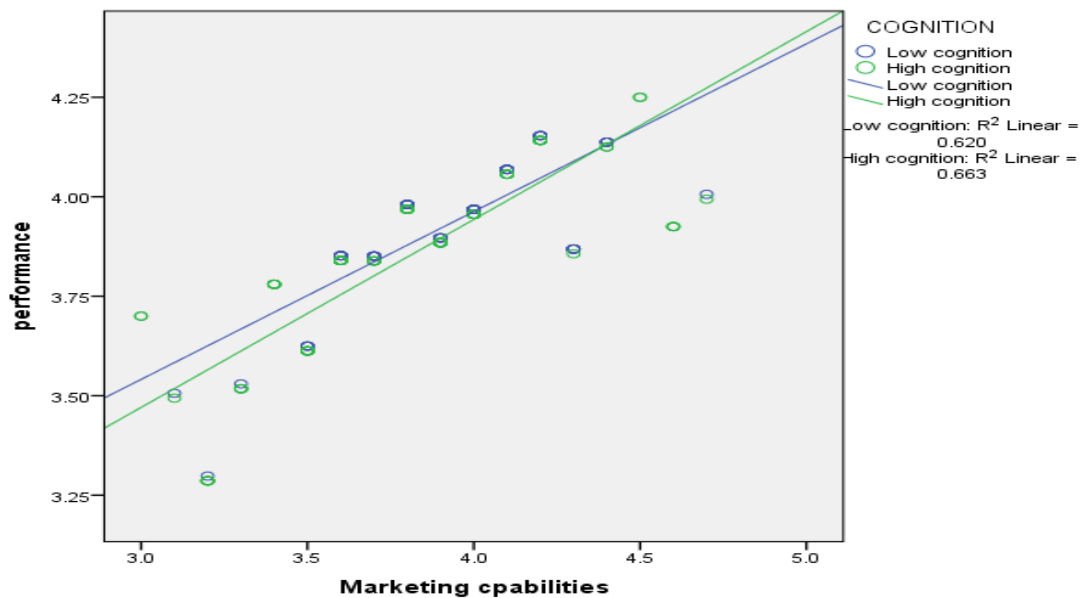


Figure 4.8: Interaction Effect (Marketing capability)

As shown in figure 4.8, marketing capabilities and managers cognition the curves crossed one another. This is an indicator that there is likely to be a moderation effect by manager’s cognition on marketing capabilities and performance. This implies that manager’s cognition moderates the relationship between marketing capabilities and performance. This is a clear indication that marketing capabilities require manager’s cognition for them to be effective. These findings were inconsistent with that of Gao (2009) that managerial CSR cognition is have a significant mediating effect on the relationship between marketing and corporate performance.

Figure 4.9 shows two way interaction of the moderator (manager’s cognition). The y axis is the dependent variable (performance) while the x axis is the independent variables (knowledge management capabilities).

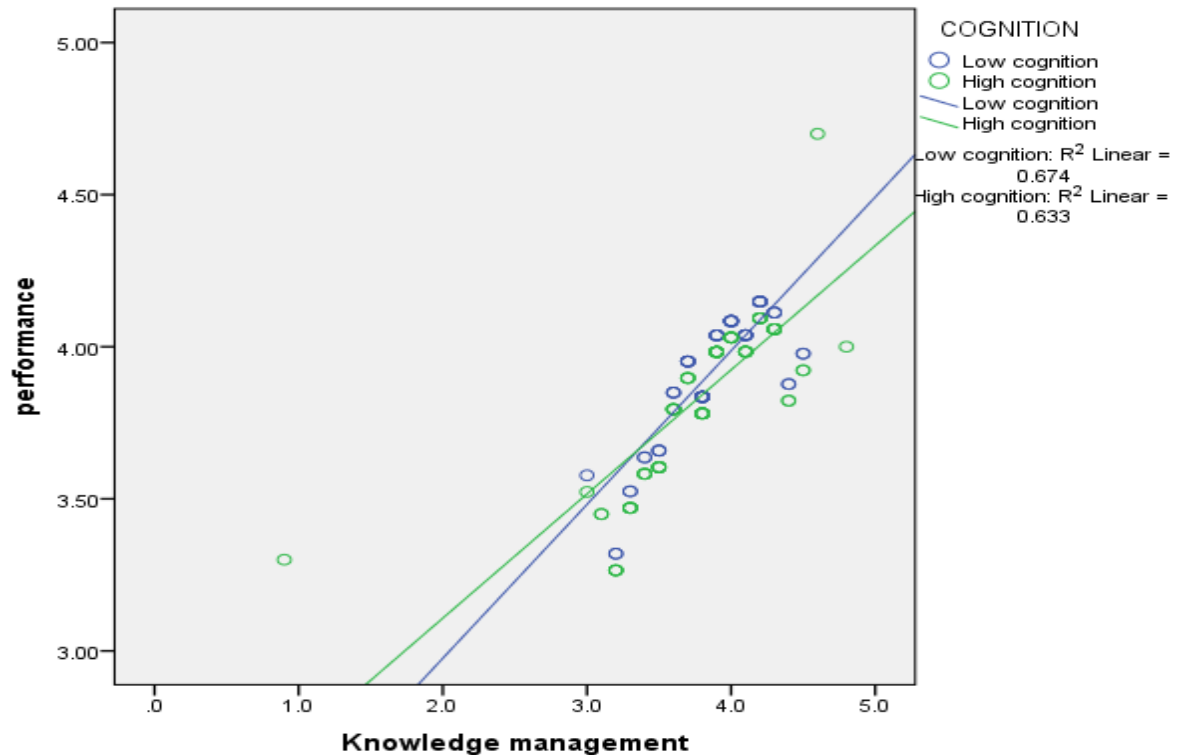


Figure 4.9: Interaction Effect (Knowledge management)

As shown in figure 4.9, knowledge management capabilities and managers cognition the curves crossed one another. This is an indicator that there is likely to be a moderation effect by manager’s cognition on knowledge management I capabilities and performance. This implies that manager’s cognition moderates the relationship between knowledge management capabilities and performance. This is a clear indication that knowledge management capabilities require manager’s cognition for them to be effective. These findings were inconsistent with that of Gao (2009) that managerial CSR cognition is have a significant mediating effect on the relationship between marketing and corporate performance.

Figure 4.10 shows two way interaction of the moderator (manager's cognition). The y axis is the dependent variable (performance) while the x axis is the independent variables (coordination capabilities).

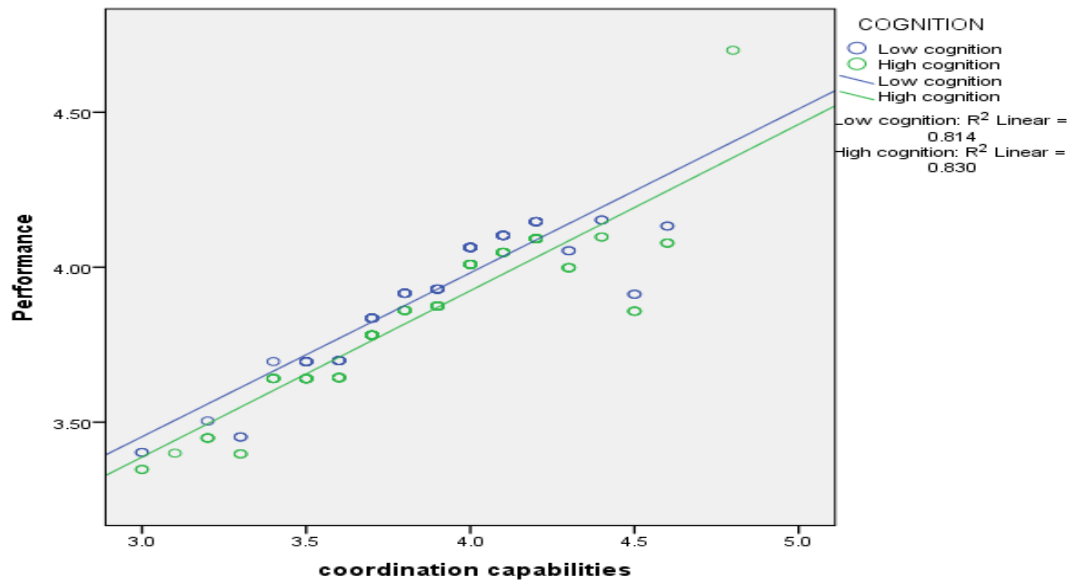


Figure 4.10: Interaction Effect (coordination capabilities)

As shown in figure 4.10, coordination capabilities and managers cognition the curves crossed one another. This is an indicator that there is likely to be a moderation effect by manager's cognition on coordination capabilities and performance. This implies that managers' cognition does not moderates the relationship between coordination capabilities and performance. This is a clear indication that coordination capabilities do not require manager's cognition for them to be effective.

4.9.2 Step Wise regression

Stepwise regression is a method of fitting regression models in which the choice of predictive variables is carried out by an automatic procedure. In each step, a variable is considered for addition to or subtraction from the set of explanatory variables based on some pre-specified criterion. Stepwise regression was adopted in order to test how

addition of a moderator affected the relationship between all the independent variables when one is either added or subtracted from the equation.

Table 4.39: Model of Fitness For step wise regression

R	R Square	Adjusted R Square	Std. Error	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.843 ^a	0.71	0.701	0.1838	0.71	80.265	5	164	0.000
.847 ^b	0.718	0.708	0.1817	0.008	4.721	1	163	0.031

The results revealed that R^2 increased from 70.1% to 70.8% after moderation with manager's cognition. This implies that manager's cognition moderates the relationship between organizational capabilities and performance of manufacturing firms.

Table 4.40: ANOVA for step wise regression

	Sum of Squares	df	Mean Square	F	Sig.
Regression	13.558	5	2.712	80.265	.000 ^b
Residual	5.54	164	0.034		
Total	19.098	169			
Regression	13.714	6	2.286	99.191	.000 ^c
Residual	5.384	163	0.033		
Total	19.098	169			

The results imply that the overall effect after moderation with manager's cognition is significant. In addition F statistic improved from 80.265 to 99.191.

Table 4.41: Regression of Coefficients for step wise regression

	B	Std. Error	T	Sig.
(Constant)	-0.579	0.227	-2.551	0.012
Technology	0.277	0.049	5.632	0.000
managerial capabilities	0.377	0.044	8.674	0.000
marketing	0.108	0.048	2.262	0.025
management	0.138	0.043	3.202	0.002
coordination	0.259	0.046	5.666	0.000
(Constant)	-0.615	0.225	-2.734	0.007
Technology	0.27	0.049	5.55	0.000
managerial capabilities	0.363	0.044	8.334	0.000
marketing	0.093	0.048	1.983	0.043
management	0.118	0.044	2.694	0.008
coordination	0.235	0.047	5.037	0.000
manager cognition	0.09	0.041	2.173	0.031

The results revealed that all the variables were significantly contributing to the dependent variable which was performance of manufacturing firms. From the results the variable that highly contributes to performance is strategic managerial capabilities ($\beta=0.369$). This is followed by technological capabilities ($\beta=0.27$), coordination capabilities ($\beta=0.235$), management capabilities ($\beta=0.118$), marketing capabilities ($\beta=0.093$) and finally managers cognition ($\beta=0.09$).

Hypothesis Testing for Moderating Variable; Manger's Cognition

The acceptance/rejection criteria was that, if the p value is greater than 0.05, the H_{01} is not rejected but if it's less than 0.05, the H_{01} fails to be rejected.

The null hypothesis was that Managers' cognition has no significant influence on the relationship between organizational capability and performance of manufacturing firms in Kenya. Results in Table 4.40 show that the p-value was $0.033 < 0.05$. This indicated that the null hypothesis was rejected hence Managers' cognition has a significant influence on the relationship between organizational capability and performance of manufacturing firms in Kenya.

Table 4.42: Hypothesis Testing

Objective No	Objective	Hypothesis	Rule	p-value	Comment
Objective 1	To examine the influence of technological capabilities on performance of manufacturing firms in Kenya.	Ho1: Technological capabilities exert no significant influence on the performance of manufacturing firms in Kenya.	Reject Ho if p value <0.05	p<0.05	The null hypothesis was rejected; therefore Technological capabilities has significant influence on the performance of manufacturing firms in Kenya.
Objective 2	To determine the influence of managerial capabilities on performance of manufacturing firms in Kenya.	Ho2: Managerial capabilities have no significant influence on the performance of manufacturing firms in Kenya.	Reject Ho if p value <0.05	p<0.05	The null hypothesis was rejected; therefore managerial capabilities have significant influence on the performance of manufacturing firms in Kenya.
Objective 3	To examine the influence of knowledge management capabilities on performance of manufacturing firms in Kenya	H03: Knowledge management capabilities have no significant influence on the performance of manufacturing firms in Kenya..	Reject Ho if p value <0.05	p<0.05	The null hypothesis was rejected; therefore Knowledge management capabilities have significant influence on the performance of manufacturing firms in Kenya.
Objective 4	To determine influence of coordination capabilities on performance of manufacturing firms in Kenya.	H04: Coordination capabilities have no significant influence on the performance of manufacturing firms in Kenya.	Reject Ho if p value <0.05	p<0.05	The null hypothesis was rejected; therefore Coordination capabilities have significant influence on the performance of manufacturing firms in Kenya Kenya.
Objective 5	To determine the influence of marketing capabilities on performance of manufacturing firms in Kenya project success factors and project performance of community based HIV projects.	H05: Marketing capabilities have no significant influence on the performance of manufacturing firms in Kenya	Reject H0 if p value<0.05	P<0.05	The null hypothesis was rejected; therefore Marketing capabilities have no significant influence on the performance of manufacturing firms in Kenya projects in Kenya
Objective 6	To determine the moderating effect of managers' cognition on the relationship between organizational capability and performance of manufacturing firms in Kenya	H05: Managers' cognition has no significant influence on the relationship between organizational capability and performance of manufacturing firms in Kenya.	Reject Ho if p value <0.05	P<0.05	Managers' cognition has no significant influence on the relationship between organizational capability and performance of manufacturing firms in Kenya.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter deals with the summary of the findings, the conclusion and recommendations. This was done in line with the objectives of the study and areas of further research were suggested.

5.2 Summary of Major Findings

This section summarizes the findings obtained in chapter four in line with the study objectives.

5.2.1 Technological Capabilities and Performance of Manufacturing Firms in Kenya.

The results from technological capabilities indicated an increase in technological capabilities resulted to an improvement in firm's performance. Correlation results revealed that firm's performance were positively related. Regression further showed that technological capabilities have a positive and significant relationship with firm's performance. These findings concur with various other findings by previous scholars who investigated the effect of technological capabilities on performance in different firms and found a positive and significant relationship between technological capabilities and firms performance (Chantanaphant, Nabi & Dornberger, 2013; Otiso, 2017; Reichert & Zawislak, 2014; Tsai, 2014; Yam, Lo, Tang, & Lau, 2015). The study found that firms that had adopted new technologies had been able to outperform their competitors. The adoption of new technologies also led the firms to the development of new services, new functions, and formation of new alliances.

5.2.2 Managerial Capabilities and Performance of Manufacturing Firms in Kenya.

The results from managerial capabilities indicated an increase in managerial capabilities resulted to an improvement in firm's performance. Correlation results found that managerial capabilities and firm's performance were positively and significantly related. Regression further revealed that managerial capabilities have a positive and significant relationship with firm's performance. These findings were consistent with the findings of Jolly, Isa, Othman, and Ahmdon (2016) who found that managerial capability has a positive a positive relationship with performance of Malaysian firms. The results also agreed with those of Kwalanda, Mukanzi and Onyango (2017) who found that managerial capabilities such as presentation capabilities and interpersonal capabilities were a good predictor of performance and positively and significantly related with the performance of sugar manufacturing industry. Sreckovic (2015) also found that interpersonal capabilities of managers is important predictor of performance. On the contrary, results were inconsistent with those of Lo (2015) who found that managerial capabilities have no effect on firm performance.

5.2.3 Marketing Capabilities on Performance of Manufacturing Firms in Kenya

The results from marketing capabilities indicated an increase in knowledge capabilities resulted to an improvement in firm's performance. Correlation results indicated that marketing capabilities and firm's performance were positively and significantly related. Regression further showed that marketing capabilities have a positive and significant relationship with firm's performance. These findings agreed with that of Udoyi (2014) who found out that there was a significant positive relationship between performance and marketing capabilities. The findings are also consistent with those of Ejrami, Salehi and Ahmadian (2016) who found that marketing capability has positive impact on performance. Further, the results concur with those of Salisu, Abu-Bakr and Rani (2017) who asserted that marketing capability has positive impact on performance of firms in Nigeria. Hosseini (2016) also found that marketing capabilities has a positive effect on performance.

5.2.4 Knowledge Management Capabilities and Performance of Manufacturing Firms in Kenya.

The results from knowledge capabilities indicated an increase in knowledge management capabilities resulted to an improvement in firm's performance. Correlation results indicated that knowledge capabilities and firm's performance were positively and significantly related. Regression further indicated that knowledge capabilities have a positive and significant relationship with firm's performance. The findings were in agreement with that of Musuva, Ogutu, Awino and Yabs (2013) who showed that knowledge capabilities have a positive influence on the performance of a firm. Further, findings agreed with Tseng and Lee (2014) who concurred that knowledge management capabilities increased performance of firms. Furthermore, results agreed with those of Mohammad, Mohammad, Ali and Ali (2012) who found that the aspects of knowledge management; knowledge acquisition, knowledge application, technology infrastructure, organizational culture, and organizational structure positively and significantly affect performance. On the other hand, results disagreed with those of Bharadwaj, Chauhan and Raman (2015) who asserted that knowledge management capabilities negatively impacted on the performance of Indian firms.

5.2.5 Coordination Capabilities and Performance of Manufacturing Firms in Kenya.

The results from coordination capabilities indicated an increase in knowledge capabilities resulted to an improvement in firm's performance. Correlation results revealed that coordination capabilities and firm's performance were positively and significantly related. Regression further showed that coordination capabilities have a positive and significant relationship with firm's performance. These findings concur with the findings of Rehman, and Saeed (2015) who asserted that coordination capabilities help the firm to integrate all the tacit knowledge as well as codified knowledge in order to produce and deliver those products that are cost effective and get more information and data about the needs and demands of the customers and therefore

positively impacts on firm performance. The results are inconsistent with those of Tai and Lin (2018) who found that firm performance is not directly linked to coordination capabilities.

5.2.6 Manager's Cognition on the relationship between Organizational Capability and Performance of Manufacturing Firms in Kenya

The results from manager's cognition indicated an increase in manager's cognition capabilities resulted to an improvement in organizational capability and performance. Correlation indicated that manager's cognition and performance were positively and significantly related. Regression results further indicated that managers cognition moderates the relationship between organizational capability and performance. The results were in consistency with that of Uotila (2013) who confirmed that managers' cognitions had an impact on performance of the firm and suggested that the managers' cognition on firm performance produced by their personal and cultural history, was always partial, revealing some aspect of reality.

5.3 Conclusion

5.3.1 Technological Capabilities and Performance of Manufacturing Firms in Kenya.

The study concluded that technological capabilities have a positive effect on manufacturing firms. The study concluded that adoption of technology enables a firm to outperform its competitors. Furthermore, it concluded that adoption of technology leads to the development of new services, new functions, and formation of new alliances which in turn helps the organization to develop new products and processes without struggle and to employ as well as develop a high technology for its product. The study further concluded that the ability of an organization to employ and develop a high technology for its product goes a long way in determining the strategic position to adopt whether it is that of the differentiation position or the cost leadership position. The study

also concluded that the organization is able to lead and maintain technological change in the industry and is able to use technology to efficiently produce products than its competitors and at the lowest cost and hence outshine its competitors.

5.3.2 Managerial Capabilities and Performance of Manufacturing Firms in Kenya.

The study concluded that managerial capabilities have positive effect on performance of manufacturing firms. The study concluded it is the management that achieves better overall control of general organizational performance. Furthermore that the management has skills in developing clear operating procedures to run the business successfully, the ability to coordinate different areas of the business to achieve results and the ability and expertise to design jobs to suit staff capabilities and interest. The study also concluded that top management perceives new organizational opportunities and potential threats, is able to forecast and plan for the success of the business and as well has the ability to attract and retain creative employees. In addition, the study concluded that the top management has the ability and sole responsibility to implement policies and strategies that achieve results.

5.3.3 Knowledge Management Capabilities and Performance of Manufacturing Firms in Kenya.

The study concluded that knowledge management capabilities have positive effect on performance of manufacturing firms. The study concluded that the organization gives orientation towards the development, transfer and protection of strategic knowledge. It also explicitly identifies strategic knowledge as a key element in our planning and acquires the knowledge from external sources for developing new products. The study also concluded that the existing knowledge is integrated with new information and knowledge acquired and the acquired knowledge is shared across units in the department. The study also concluded that the management encourages high levels of participation in capturing and transferring knowledge for the overall firms' success.

5.2.4 Coordination Capabilities and Performance of Manufacturing Firms in Kenya.

The study concluded that coordination capabilities have positive effect on performance of manufacturing firms. The study concluded that company's strategy emphasizes coordination of the various departments and that various departments in the company share a great deal of information with each other. Business functions such as marketing, sales, etc. are integrated in serving the needs of the target markets while the company's resources are frequently shared by different departments. The study further concluded that employees collaborate with each other to achieve organizational goals a clear indication that inter-departmental co-ordination is functional and in the long-run has enhanced relationship with customers and made decisions that affect the relations with customer easy.

5.3.5 Marketing Capabilities on Performance of Manufacturing Firms in Kenya

The study concluded that marketing capabilities have positive effect on performance of manufacturing firms. The study concluded that organization has the ability to launch new products in the market successfully by use of information coming from the market. This helps the organization to ascertaining customers' current needs and what products they will need in the future. The study also concluded that management regularly discusses competitors' strengths and strategies by carrying out market research is carried out to ascertain the needs of customers and adoption of marketing information that enables the firm to maintain relationship with customers.

5.3.6 Managers Cognition on the relationship between Organizational Capability and Performance of Manufacturing Firms in Kenya

The study concluded that manager's cognition positively moderates the relationship between organizational capabilities and performance of manufacturing. The study concluded that managers are able to control their emotions intelligently their world view

enhance the performance of the firm and are able to contain any negative feelings in the firm and focus instead on a positive outcome. The study concluded that managers' beliefs are in line with the firm's mission and vision.

5.4 Recommendations

The study recommends that firms should strive to cultivate organizational capabilities. Recommendation is made to the manufacturing firms' management to come up with ways and procedure to enhance the capabilities of individual players such as the managers and subordinate staff in terms of technology. Management capabilities, coordination capabilities, marketing capabilities and knowledge management capabilities. This could be done through arrangements for trainings and benchmarking from other firms that are doing well in these areas.

Based on the study findings, the study recommended the companies in the manufacturing industry to strive to adopt new technologies from the other competing firms, through building strong relationships with their management, arranging for trainings from their experts and focusing more on external social ties. The study also recommends the companies to appoint their managers based on education level and experience, cognitive capabilities and ability to form social ties and relate well with other managers from other firms.

The study further recommended that the companies should ensure that the marketing personnel had the right marketing capabilities by bringing expert in the area to train them and also hold house trainings. Furthermore, the study recommended that companies ensure knowledge capabilities acquisition to employees through on the job trainings, mentorship programs, coaching, attending workshops and supporting them for further studies. Finally, coordination in these companies should be ensured by the use of effective communication channels and having different departments that perform different duties.

5.5 Area of Further Studies

The study sought to establish the aspects of strategic organizational capabilities that influence the performance of manufacturing firms in Kenya. This study, therefore, narrowed down on manufacturing firms only. Thus area for further studies could consider other industries for the purpose of making a comparison of the findings with those of the current study. The studies could further seek to analyze other organizational capabilities such as operations capabilities, human resource management capabilities and financial management capabilities.

Besides, the study was conducted in Kenya and thus an extensive research could be carried out in the neighboring East African countries to establish a relational and comparison in performance of East African countries.

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APPENDICES

Appendix I: Introduction Letter

EMILY MOKEIRA OKWEMBA,
THROUGH THE DIRECTOR,
JOMO KENYATTA UNIVERSITY OF
AGRICULTURE AND TECHNOLOGY,
KAKAMEGA CBD
P.O BOX 595, KAKAMEGA.

Dear Respondent,

My name is Emily Mokeira Okwemba. I am currently pursuing a Doctoral Degree at Jomo Kenyatta University of Agriculture and Technology. I am conducting an academic research on the influence of strategic organizational capabilities on the performance of manufacturing firms in Kenya.

You have been selected to participate in this study. Your answers should reflect only your perception and experience of the strategic organization capabilities within your organization and how they influence performance in the Kenyan market.

The information will be treated with utmost confidentiality. Thank you for your cooperation and sincere contribution to this study.

Yours Sincerely

Emily Mokeira Okwemba

Appendix II: Research Questionnaire for the Management of Manufacturing Firms in Kenya

The questionnaire is designed to obtain information for the organization. The aim of this research is to investigate the influence of organization capabilities on performance of manufacturing firms in Kenya. All your responses and information received will be used for the purpose of this study and will be treated with utmost confidentiality.

Please tick or fill in as appropriate

Section A: Background Information

1. What is your duration of employment in the organization? -----
2. What is your level of education? (tick as appropriate)
 - i) Certificate
 - ii) Diploma
 - iii) Masters
 - iv) PHD
 - v) State other qualifications
3. What is your designation in the firm? -----

SECTION B: ORGANIZATIONAL INFORMATION

4. Age of the firms in years.....
5. In which subsector does your firm operate in? -----
6. How many years has your firm operated in the subsector? -----
7. Products and services of your firm include:-----

8. Indicate whether the firm is of local or foreign owned (tick appropriately)
- i) Local
 - ii) Foreign
 - iii) Joint ownership(local/foreign)
9. What is the state of business diversification of your firm? Tick in the appropriate box.
- i) Diversified
 - ii) Not diversified
10. In which of the following markets is your firm involved in? (tick as appropriate)
- i) Local
 - ii) Regional
 - iii) Global

PART C

The statements are meant to obtain your views on organization capabilities in your firm. Indicate your level of agreement by rating your response on a scale ranging from Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree by ticking in the appropriate.

KEY: 1-Strongly disagree 3 -Neutral

2 –Disagree

4 –Agree

5 –Strongly Agree

SECTION B

11. Using a likert scale from 1-5, please rate the extent to which you agree with the following statements

Key: SD=1, D=2, N=3, A=4, SA=5

Strategic Technological Capabilities

Statements	5	4	3	2	1
1. Adoption of technology has cultivated organizational capabilities that enable our firm to outperform its competitors					
2. Adoption of technology has led to the development of new services, new functions, formation of new alliances					
3. Employees in our organization has high technological skills					
4. Our organization is able to develop new products and processes without struggle.					
5. Our organization is able to employ and develop a high technology for its product					
6. Our organization is able to lead and maintain technological change in the industry					
7. Our organization is able to use technology to efficiently produce more products than its competitors and at the lowest					

cost					
8. Our organization uses distribution technology to increase its sales					
9. Collaboration technologies enables the organization to outshine its competitors					

How do you think the technological capabilities affect performance of firms especially in the manufacturing sector?

.....

.....

.....

How do you ensure that you collaborate with other firms in the sector to adopt their technologies?

.....

.....

SECTION C

12. Using a likert scale from 1-5, please rate the extent to which you agree with the following statements

Key: SD=1, D=2, N=3, A=4, SA=5

education (type and level) and work experience and social capital; social network ties (internal and external), network characteristics (size, closeness, strength, diversity and centrality) and relationships (with managers from other firms, business contacts, directors and government officials).

Managerial Capabilities

Statements	5	4	3	2	1
1. The management in our company have the rightful education for their positions and therefore have gained the needed skills					
2. The management in our company have achieved high level of education which imparts them with the knowledge and skills required to run the company					
3. During the appointment of managers in our company, their level of experience for managerial positions is put into consideration so that those with highest experience are considered.					
4. The management in our company are able to form strong social network ties both with employees and other stakeholders and customers					
5. The social network ties between the management and the company stakeholders and customers is closely knit					

6. The management is able to interact freely with all stakeholders of different cadre, race, religion and gender					
7. The management is able to relate with and reach a wide number of customers and therefore create a huge social network tie.					
8. Our company management is able to relate well with managers from other firms					
9. Managers in our company are able to have good relationships with other business contact persons					
10. Managers in our company are able to build good relations with government officials					

What is the criteria used in appointing managers in your firm?

.....

How do managers in your firms relate with others in the firms in the manufacturing sector?

.....

Section D

13. Using a likert scale from 1-5, please rate the extent to which you agree with the following statements

Key: SD=1, D=2, N=3, A=4, SA=5

Marketing Capabilities

Statement	5	4	3	2	1
1. Ability to launch new products in the market successfully					
2. Good at using information coming from the market					
3. Good at creating, maintaining and enhancing relationships with customers					
4. Good at ascertaining customers' current needs and what products they will need in the future					
5. Good at sharing mutual commitment and goals with our strategic partners in the market					
6. Top management regularly discusses competitors' strengths and strategies.					
7. The management responds to competitive actions that threaten the firm.					

8. There is adoption of marketing information that enables the firm to maintain relationship with customers.					
9. Market research is carried out to ascertain the needs of customers.					
10. There are flexible structures that make the firm to respond to management better than competitors.					

14. Does the firm carry out market research? (a) Yes----- (b) No-----

How has your firms ensured the acquisition of marketing capabilities for marketing personnel?

.....

.....

SECTION E

15. Using a likert scale from 1-5, please rate the extent to which you agree with the following statements

Key: SD=1, D=2, N=3, A=4, SA=5

Knowledge Management Capabilities

Statement	5	4	3	2	1
1. My organization gives orientation towards the development, transfer and protection of strategic knowledge.					
2. My organization explicitly identifies strategic knowledge as a key element in our planning.					
3. My organization acquires knowledge from external sources for developing new products					
4. My organization uses knowledge to respond to consumer needs and preferences					
5. In my organization knowledge is shared across units					
6. Management encourages high levels of participation in capturing and transferring knowledge.					

7. Management successfully integrates existing knowledge with new information and knowledge acquired					
8. Management clearly supports the role of knowledge in the firms' success.					
9. Employees successfully link existing knowledge with new insights					
10. Management has effective ways of exploiting internal and external information and knowledge into processes, products or services					

How do you do knowledge acquisition for the employees in the firm?

.....

SECTION F

16. Using a likert scale from 1-5, please rate the extent to which you agree with the following statements

Key: SD=1, D=2, N=3, A=4, SA=5

Co-ordination Capabilities

Statement	5	4	3	2	1
1. The various departments in my company share a great deal of information with each other					
2. Business functions are integrated in serving the needs of the target market.					
3. My company's strategy emphasizes coordination of the various departments					
4. All of our business functions such as marketing, sales, etc. are integrated in serving the needs of our target markets					
5. In my company, resources are frequently shared by different departments					
6. My company tightly coordinates the activities of all departments and adds customer value					

7. Our top managers from across the company regularly visit our current and prospective customers					
8. Employees collaborate with each other to achieve organizational goals.					
9. Inter-departmental co-ordination has enhanced relationship with customers.					
10. Inter-departmental co-ordination has made decisions that affect the relations with customer easy.					

How is coordination done in the firm?

.....

.....

SECTION G

17.Using a likert scale from 1-5, please rate the extent to which you agree with the following statements

Key: SD=1, D=2, N=3, A=4, SA=5

Managers Cognition

Statement	5	4	3	2	1
1. Our managers are able to control their emotions intelligently					
2. Our managers use their cognitive abilities while making decisions					
3. Our managers world view enhance the performance of the firm					
4. Our managers are able to structure information received from the world around to boost the performance of the firm					
5. Our managers beliefs are in line with the firms mission					
6. Our managers beliefs are in line with the firms vision					
7. Our managers are able to contain any negative feelings in the firm and focus instead on a positive outcome					

In your view, how does mangers cognition affect firm performance?

Section G

18. Using a likert scale from 1-5, please rate the extent to which you agree with the following statements

Key: SD=1, D=2, N=3, A=4, SA=5

Performance of firms

Statement	5	4	3	2	1
Adaptability					
1. The firm has increased new products.					
2. There is responsiveness to opportunities afforded by changes in the environment.					
Effectiveness					
3. The firm employs best practices.					
4. The firm adopts new knowledge and information.					
5. Coordination of tasks has increased the effectiveness					

in work deliveries.					
Firm Growth					
6. Firm alliances with foreign partners have led to growth of the firm.					
7. The firm has more than doubled in size for the past two years.					
Efficiency					
8. Day-to-day business operation has improved on firm efficiency.					
9. Coordination of tasks has increased efficiency.					
10. The firm's departmental coordination has reduced the operational cost.					

Appendix III: Table for Determining Sample Size from a Given Population

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note- N = Population Size

S = Sample Size

Appendix IV; Validity Test Results

Validity for Technological Capability

Statement	Content Validity
Adoption of technology has cultivated organizational capabilities that enable our firm to outperform its competitors	Valid
Adoption of technology has led to the development of new services, new functions, formation of new alliances	Valid
Employees in our organization has high technological skills	Valid
Our organization is able to develop new products and processes without struggle.	Valid
Our organization is able to employ and develop a high technology for its product	Valid
Our organization is able to lead and maintain technological change in the industry	Valid
Our organization is able to use technology to efficiently produce more products than its competitors and at the lowest cost	Valid
Our organization uses distribution technology to increase it sales	Valid
Collaboration technologies enables the organization to outshine its competitors	Valid

Validity for Managerial capability

Statement	Content Validity
The management have skills in developing a clear operating procedures to run the business successfully	Valid
The management have the ability to allocate resources (e.g. financial, employees) to achieve the firm's goals	Valid
The management have the ability to coordinate different areas of the business to achieve results	Valid
The management have the ability and expertise to design jobs to suit staff capabilities and interest	Valid
The management have the ability to attract and retain creative employees	Valid
The management have the ability to forecast and plan for the success of the business	Valid
The management have the ability to implement policies and strategies that achieve results	Valid

Top management team attracts and retains well-trained and competent top managers	Valid
Top management achieves better overall control of general organizational performance	Valid
Top management perceives new organizational opportunities and potential threats	Valid

Validity for Marketing Capability

Statement	Content validity
Ability to launch new products in the market successfully	Valid
Good at using information coming from the market	Valid
Good at creating, maintaining and enhancing relationships with customer	Valid
Good at ascertaining customers' current needs and what products they will need in the future	Valid
Good at sharing mutual commitment and goals with our strategic partners in the market	Valid
Top management regularly discusses competitors' strengths and strategies	Valid
The management responds to competitive actions that threaten the firm.	Valid
There is adoption of marketing information that enables the firm to maintain relationship with customers	Valid
market research is carried out to ascertain the needs of customers	Valid
There are flexible structures that make the firm to respond to management better than competitors	Valid

Validity for Knowledge Management Capability

Statement	Content Validity
My organization gives orientation towards the development, transfer and protection of strategic knowledge	Valid
My organization explicitly identifies strategic knowledge as a key element in our planning	Valid
My organization acquires knowledge from external sources for developing new products	Valid
My organization uses knowledge to respond to consumer needs and preferences	Valid
In my organization knowledge is shared across units	Valid
Management encourages high levels of participation in capturing and transferring knowledge	Valid
Management successfully integrates existing knowledge with new information and knowledge acquired	Valid
Management clearly supports the role of knowledge in the firms' success	Valid
Employees successfully link existing knowledge with new insights	Valid
Management has effective ways of exploiting internal and external information and knowledge into processes, products or services	Valid

Validity for Strategic Coordination Capabilities

Statement	Content Validity
The various departments in my company share a great deal of information with each other	Valid
Business functions are integrated in serving the needs of the target market.	Valid
My company's strategy emphasizes coordination of the various departments	Valid
All of our business functions such as marketing, sales, etc. are integrated in serving the needs of our target markets	Valid
In my company, resources are frequently shared by different departments	Valid
My company tightly coordinates the activities of all departments and adds customer value	Valid
Our top managers from across the company regularly visit our current and prospective customers	Valid

Employees collaborate with each other to achieve organizational go	Valid
Inter-departmental co-ordination has enhanced relationship with customers	Valid
Inter-departmental co-ordination has made decisions that affect the relations with customer easy	Valid

Validity for Managerial cognition

Statement	Content Validity
Our managers are able to control their emotions intelligently	Valid
Our managers use their cognitive abilities while making decisions	Valid
Our managers world view enhance the performance of the firm	Valid
Our managers are able to structure information received from the world around to boost the performance of the firm	Valid
Our managers beliefs are in line with the firms mission	Valid
Our managers beliefs are in line with the firms vision	Valid
Our managers are able to contain any negative feelings in the firm and focus instead on a positive outcome	Valid

Validity for Firm Performance

Statement	Content Validity
The firm has increased new products	Valid
There is responsiveness to opportunities afforded by changes in the environment	Valid
The firm employs best practices	Valid
The firm adopts new knowledge and information	Valid
Coordination of tasks has increased the effectiveness in work deliveries	Valid
Firm alliances with foreign partners have led to growth of the firm	Valid
The firm has more than doubled in size for the past two years	Valid
A Day-to-day business operation has improved on firm efficiency	Valid
Coordination of tasks has increased efficiency.	Valid
The firm's departmental coordination has reduced the operational cost	Valid

Appendix V: List of Firms that Responded to the Questionnaire

Adpack Ltd

African Coffee
African Cotton Industries Ltd
Allpack Industries Ltd
Alltex EPZ Ltd
Alpharama Ltd
Apex Steel Ltd - Rolling Mill Division
Arvind Engineering Ltd
Athi River Mining Ltd
Athi River Tanneries Ltd
Auto Springs Manufacturers Ltd
Belat Enterprises
Boxpack Ltd
Brava Foods
Canon Chemicals Ltd (former United Chemicals Ltd)
Carton Manufacturers Ltd
Darfords Enterprises Ltd
Devki Steel Mills Ltd
East African Portland Cement Company Ltd
Erdemann Gypsum Ltd
Essential Drugs Ltd
Ethical Fashion Artisans EPZ Ltd
Exotic Penina Fields Group Ltd
FRM EA Packers Ltd
Global Apparrels Ltd
Golden Africa Kenya Ltd
Hela Intimates EPZ LTD
Heritage Foods Kenya Ltd
Insta Products (EPZ) Ltd
Jumbo Quality Products
Kamyn Industries Ltd

Kapa Oil Refineries Ltd
King Finn Kenya Ltd
Koto Housing Kenya Ltd
Lexcon Enterprises Ltd
Luma Stores & Supplies Enter. Ltd
Mabati Rolling Mills Ltd
Makindu Motors Ltd
Mekan (Kenya) Ltd
Metoxide Africa Ltd
New Wide Garments Kenya EPZ LTD
Norda Industries Ltd
Orbit Products Africa Ltd (Formerly Orbit Chemicals)
Patnet Steel Makers Manufacturers Ltd
Platinum Distillers Ltd
Promasidor (Kenya) Ltd
pyrrex General Agencies Ltd
Richfield Engineering Ltd
Royal Garment Industries EPZ Ltd
Saj Ceramics Ltd
Sanpac Africa Ltd
Sanvoks Industries Ltd
Savannah Cement Ltd
Sigma Supplies Ltd
Silver Coin Imports Ltd
Socabelec (EA) Ltd
Soroya Motors Spares Ltd
Steelwool (Africa) Ltd
Stratostaff EA Ltd
Access Alliance Ltd
Adafric Communications Ltd
Anffi Kenya Ltd
GRECO INTERNATIONAL LTD
Hychem Hygiene & Healthcare Solutions Limited
Redachem East Africa Ltd

Sheffield Steel Systems Ltd
Syspro - East Africa
A-One Plastics Ltd
ACME Containers Ltd
Afrison (K) Ltd
Afrimac Nut Company
Alliance One Tobacco Kenya Ltd
Alpha Knits Ltd
Alternative Energy Systems Ltd
Andest Bites Ltd
Bakex Millers Ltd
Bata Shoe Co (K) Ltd
Benmed Pharmaceuticals Ltd
Bidco Africa Ltd
Big Flowers Ltd
BlueSky Industries Ltd
Bold Ltd
Booth Extrusions Ltd
Broadway Bakery Ltd
Brookside Dairy Ltd
Buhler Ltd
Burn Manufacturing USA LLC
Burton and Bamber Company Ltd
Buuri Millers Enterprises
Caffe Del Duca Ltd
Capwell Industries Ltd
Centrofood Industries Ltd
Chryso Eastern Africa Ltd
Cocorico Investments Ltd
Coffee Agriworks Ltd
Del Monte Kenya Ltd
Digital Hub Ltd
Digital Packaging Innovations Holdings Ltd
Dune Packaging Ltd
East African Paper Mills (Formerly Kenya Paper Mills
Farm Refrigeration and Electrical Systems
Fun Kidz Ltd
Green Pencils Ltd
Highlands Mineral Water Co. Ltd
Hope Plastics
Jetlak Foods Ltd

Juja Pulp & Paper Ltd
Jungle Group
Karirana Estate Ltd
Kedsta Investment Ltd
Kel Chemicals Ltd
Kenafric Bakery
Kenblest Ltd
Kenrub Ltd
Kenstar Plastic Industries Ltd
Kenya Nut Company Ltd
Kenya Tents Ltd
Kenya Vehicle Manufacturers Ltd
Kevian Kenya Ltd
Leather Industries of Kenya Ltd
Mafuko Industries Ltd
Mama Millers Ltd
Marubeni Corporation
Mayfeeds Kenya Ltd
Medisel Kenya Ltd
Megatech Ltd
Mjengo Ltd
Morani Ltd
Mount Kenya Bottlers Ltd
Multivac North Africa KenyaABC
Munyiri Special Honey Ltd
Mwanga Millers
Nampak Kenya Ltd
National Cement Ltd
Nicey Nicey Maize Millers Ltd
Norbrook Kenya Ltd
Olivado EPZ Ltd
Ombi Rubber Rollers Ltd
Palak International Ltd
Palmhouse Diaries Ltd
Patronics Services Ltd
Raka Milk Processors
Red Lands Roses Ltd
Scepter Millers Ltd
East African Paper Mills (Formerly Kenya Paper Mills
Farm Refrigeration and Electrical Systems
Fun Kidz Ltd

Green Pencils Ltd
Saj Ceramics Ltd
Sanpac Africa Ltd
Sanvoks Industries Ltd
Savannah Cement Ltd
Sigma Supplies Ltd
Silver Coin Imports Ltd
Socabelec (EA) Ltd
Mama Millers Ltd
Marubeni Corporation
Mayfeeds Kenya Ltd
Medisel Kenya Ltd
Megatech Ltd
Mjengo Ltd
Morani Ltd
Arvind Engineering Ltd
Athi River Mining Ltd
Athi River Tanneries Ltd
Auto Springs Manufacturers Ltd
Belat Enterprises
Boxpack Ltd
Brava Foods
Canon Chemicals Ltd (former United Chemicals Ltd)
